## IN THE CLAIMS

- 1. (original) A polymer comprising at least 50 mol% of one or more C3 to C40 olefins where the polymers has:
  - a) a Dot T-Peel of 1 Newton or more on Kraft paper;
  - b) an Mw of 10,000 to 100,000; and
  - a branching index (g') of 0.98 or less measured at the Mz of the polymer when the polymer has an Mw of 10,000 to 60,000, or a branching index (g') of 0.95 or less measured at the Mz of the polymer when the polymer has an Mw of 10,000 to 100,000.
- 2. (original) The polymer of claim 1 wherein the polymer has:
  - a) a Dot T-Peel of 1 Newton or more on Kraft paper;
  - b) a branching index (g') of 0.98 or less measured at the Mz of the polymer;
  - c) a Mw of 10,000 to 60,000; and
  - d) a heat of fusion of 1 to 50 J/g.
- 3. (original) The polymer of claim 1 where the polymer is a homopolypropylene or a copolymer of propylene and up to 5 mole% ethylene having:
  - a) an isotactic run length of 1 to 30,
  - b) a percent of r dyad of greater than 20%, and
  - c) a heat of fusion of between 1 and 70 J/g.
- 4. (original) The polymer of claim 1 wherein the polymer comprises propylene and less than 15 mole % of ethylene.
- 5. (original) The polymer of claim 1 wherein the polymer has a melt viscosity of 7000 mPa•sec or less at 190°C.
- 6. (original) The polymer of claim 1 wherein the polymer has a melt viscosity of 5000 mPa•sec or less at 190°C.

- 7. (original) The polymer of claim 1 wherein the polymer has a melt viscosity of between 250 and 6000 mPa•sec at 190°C.
- 8. (original) The polymer of claim 1 wherein the polymer has a melt viscosity of between 500 and 3000 mPa•sec at 190°C.
- 9. (original) The polymer of claim 4 wherein the polymer has a Tg of 0°C or less.
- 10. (original) The polymer of claim 4 wherein the polymer has a Tg of -10°C or less.
- (original) The polymer of claim 1 wherein the polymer has an Mw of 10,000 to 75,000 and a branching index of 0.6 or less.
- (original) The polymer of claim 1 wherein the polymer has an Mw of 10,000 to 50,000 and a branching index of 0.7 or less.
- 13. (original) The polymer of claim 1 wherein the polymer has an Mw of 10,000 to 30,000 and a branching index of 0.98 or less.
- 14. (original) The polymer of claim 1 wherein the polymer has a branching index (g') of 0.90 or less measured at the Mz of the polymer.
- (original) The polymer of claim 1 wherein the SEC graph of the polymer is bi- or multi-modal.
- 16. (original) The polymer of claim 1 wherein the polymer has an amorphous content of at least 50%.
- 17. (original) The polymer of claim 1 wherein the polymer has
  - a) a peak melting point between 60 and 190°C;
  - b) a heat of fusion of 0 to 70 J/g; and
  - c) a melt viscosity of 8000 mPa•sec or less at 190°C.

- 18. (original) The polymer of claim 1 wherein the polymer has:
  - a) a Tg of -10°C or less;
  - b) a melt viscosity between 2000 and 6000 mPa•sec;
  - c) a molecular weight distribution (Mw/Mn) of at least 5; and
  - d) a bi- or multi-modal SEC graph of the polymer.
- 19. (original) The polymer of claim 1 wherein the polymer has a crystallinity of at least 5%.
- 20. (original) The polymer of claim 1 wherein the polymer has 20 wt.% or more of hexane room temperature soluble fraction and 50 wt % or less of Soxhlet heptane insolubles.
- 21. (original) The polymer of claim 1 wherein the polymer comprises less than 3.0 mole % ethylene.
- 22. (original) The polymer of claim 1 wherein the polymer comprises less than 1.0 mole % ethylene.
- 23. (original) A composition comprising the polymer of claim 1 and a functionalized wax.
- 24. (original) A composition comprising the polymer of claim 1 and a wax.
- 25. (original) A composition comprising the polymer of claim 1 and a hydrocarbon resin.
- 26. (original) The polymer of claim 1 further comprising diolefin.
- 27. (original) The polymer of claim 26 wherein the diolefin comprises one or more C4 to C40 diolefins.
- 28. (original) The polymer of claim 26 wherein the diolefin is selected from the group consisting of 1,6-heptadiene, 1,7-octadiene, 1,8-nonadiene, 1,9-decadiene, 1,10-undecadiene, 1,11-dodecadiene, 1,12-tridecadiene, 1,13-tetradecadiene,

cyclopentadiene, vinylnorbornene, norbornadiene, ethylidene norbornene, divinylbenzene, dicyclopentadiene, polybutadienes having an Mw less than 1000 g/mol, or combinations thereof.

- 29. (original) The polymer of claim 1 wherein the polymer has an Mz/Mn of 2 to 200.
- 30. (original) The polymer of claim 1 wherein the polymer has an Mz of 15,000 to 500,000.
- 31. (original) The polymer of claim 1 wherein the polymer has a SAFT of 50 to 150°C.
- 32. (original) The polymer of claim 1 wherein the polymer has a Shore A hardness of 95 or less.
- 33. (original) The polymer of claim 1 wherein the polymer has a set time of 5 seconds or less.
- 34. (original) The polymer of claim 1 wherein the polymer has an Mw/Mn of 2 to 75.
- 35. (withdrawn) A continuous process to produce a branched olefin polymer comprising:
  - 1) selecting a first catalyst component capable of producing a polymer having an Mw of 100,000 or less and a crystallinity of 5% or less under selected polymerization conditions;
  - 2) selecting a second catalyst component capable of producing polymer having an Mw of 100,000 or less and a crystallinity of 20% or more at the selected polymerization conditions;
  - contacting the catalyst components in the presence of one or more activators with one or more C3 to C40 olefins; and,
  - 4) at a temperature of greater than 100°C;
  - 5) at a residence time of 120 minutes or less;
  - 6) wherein the ratio of the first catalyst to the second catalyst is from 1:1 to 50:1;

40.

dichloride.

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- wherein the activity of the catalyst components is at least 50 kilograms of 7) polymer per gram of the catalyst compounds; and wherein at least 80% of the olefins are converted to polymer.
- 36. (withdrawn) The process of claim 35 wherein the olefin comprises propylene.
- (withdrawn) The process of claim 35 wherein the first catalyst component comprises a 37. non-stereospecific metallocene catalyst compound.
- 38. (withdrawn) The process of claim 35 wherein the first catalyst component comprises a stereospecific metallocene catalyst compound.
- 39. (withdrawn) The process of claim 35 wherein the second catalyst component comprises a stereospecific metallocene catalyst compound.
- (withdrawn) The process of claim 35 wherein the first catalyst component comprises one or more of dimethylsilyl(tetramethylcyclopentadienyl)(cyclododecylamido) titanium dichloride, dimethylsilyl(tetramethylcyclopentadienyl)(cyclohexyl-amido) titanium dichloride, dimethylsilyl(tetramethylcyclopentadienyl)(1-adamantylamido) titanium dichloride, dimethylsilyl(tetramethylcyclopentadienyl)(t-butylamido) titanium dichloride, dimethylsilyl(tetramethylcyclopentadienyl)(s-butylamido) titanium dichloride, dimethylsilyl(tetramethylcyclopentadienyl)(n-butylamido) titanium dichloride, dimethylsilyl(tetramethylcyclopentadienyl)(exo-2-norbomylamido) titanium

diethylsilyl(tetramethylcyclopentadienyl)(cyclododecyl-amido) titanium dichloride, diethylsilyl(tetramethylcyclopentadienyl)(exo-2-norbornylamido) titanium dichloride, diethylsilyl(tetramethylcyclopentadienyl)(cyclohexyl-amido) titanium dichloride, diethylsilyl(tetramethylcyclopentadienyl)(1-adamantylamido) titanium dichloride, methylene(tetramethylcyclopentadienyl)(cyclododecyl-amido) titanium dichloride, methylene(tetramethylcyclopentadienyl)(exo-2-norbornylamido) titanium dichloride, methylene(tetramethylcyclopentadienyl)(cyclohexylamido) titanium dichloride. methylene(tetramethylcyclopentadienyl)(1-adamantylamido) titanium dichloride,

dimethylsilyl(tetramethylcyclopentadienyl)(cyclododecylamido) titanium dimethyl, dimethylsilyl(tetramethylcyclopentadienyl)(exo-2-norbornylamido) titanium dimethyl,

dimethylsilyl(tetramethylcyclopentadienyl)(cyclohexyl-amido) titanium dimethyl, dimethylsilyl(tetramethylcyclopentadienyl)(1-adamantylamido) titanium dimethyl, dimethylsilyl(2,5-dimethylcyclopentadienyl)(cyclododecylamido) titanium dichloride, dimethylsilyl(2,5-dimethylcyclopentadienyl)(exo-2-norbornylamido) titanium dichloride,

dimethylsilyl(2,5-dimethylcyclopentadienyl)(cyclohexylamido) titanium dichloride, dimethylsilyl(2,5-dimethylcyclopentadienyl)(1-adamantylamido) titanium dichloride, dimethylsilyl(3,4-dimethylcyclopentadienyl)(cyclododecylamido) titanium dichloride, dimethylsilyl(3,4-dimethylcyclopentadienyl)(exo-2-norbornylamido) titanium dichloride,

dimethylsilyl(3,4-dimethylcyclopentadienyl)(cyclohexylamido) titanium dichloride, dimethylsilyl(3,4-dimethylcyclopentadienyl)(1-adamantylamido) titanium dichloride, dimethylsilyl(2-ethyl-5-methylcyclopentadienyl)(cyclododecylamido)titanium dichloride,

dimethylsilyl(2-ethyl-5-methylcyclopentadienyl)(exo-2-norbornylamido) titanium dichloride, dimethylsilyl(2-ethyl-5-methylcyclopentadienyl)(cyclohexylamido) titanium dichloride,

dimethylsilyl(2-ethyl-5-methylcyclopentadienyl)(1-adamantylamido) titanium dichloride,

dimethylsilyl(3-ethyl-4-methylcyclopentadienyl)(cyclododecylamido)titanium dichloride,

dimethylsilyl(3-ethyl-4-methylcyclopentadienyl)(exo-2-norbornylamido) titanium dichloride,

dimethylsilyl(3-ethyl-4-methylcyclopentadienyl)(cyclohexylamido) titanium dichloride, dimethylsilyl(3-ethyl-4-methylcyclopentadienyl)(1-adamantylamido) titanium dichloride,

dimethylsilyl(2-ethyl-3-hexyl-5-methyl-4-octylcyclopentadienyl)(cyclododecylamido) titanium dichloride,

dimethylsilyl(2-ethyl-3-hexyl-5-methyl-4-octylcyclopentadienyl)(exo-2-norbornylamido) titanium dichloride.

dimethyl,

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dimethylsilyl(2-ethyl-3-hexyl-5-methyl-4-octylcyclopentadienyl)(cyclohexylamido) titanium dichloride,

dimethylsilyl(2-ethyl-3-hexyl-5-methyl-4-octylcyclopentadienyl)(1-adamantylamido) titanium dichloride,

dimethylsilyl(2-tetrahydroindenyl)(cyclododccylamido) titanium dichloride,

dimethylsilyl(2-tetrahydroindenyl)(cyclohexylamido) titanium dichloride,

dimethylsilyl(2-tetrahydroindenyl)(1-adamantylamido) titanium dichloride,

dimethylsilyl(2-tetrahydroindenyl)(exo-2-norbornylamido) titanium dichloride,

dimethylsilyl(tetramethylcyclopentadienyl)(cyclododecylamido) titanium dimethyl,

dimethylsilyl(tetramethylcyclopentadienyl)(cyclohexyl-amido) titanium dimethyl, dimethylsilyl(tetramethylcyclopentadienyl)(1-adamantylamido) titanium dimethyl,

dimethylsilyl(tetramethylcyclopentadienyl)(t-butylamido) titanium dimethyl, dimethylsilyl(tetramethylcyclopentadienyl)(t-butylamido) titanium dimethyl.

dimethylsilyl(tetramethylcyclopentadienyl)(t-butylamido) titanium dimethyl, dimethylsilyl(tetramethylcyclopentadienyl)(s-butylamido) titanium dimethyl.

dimethylsilyl(tetramethylcyclopentadienyl)(s-butylamido) titanium dimethyl, dimethylsilyl(tetramethylcyclopentadienyl)(n-butylamido) titanium dimethyl,

imethylsily/(tetramethylcyclopentadienyl)(n-butylamido) titanium dimethyl,

dimethylsilyl(tetramethylcyclopentadienyl)(exo-2-norbomylamido) dimethyl,

dimethylsilyl(tetramethylcyclopentadienyl)(exo-2-norbornylamido)

titanium

titanium

diethylsilyl(tetramethylcyclopentadienyl)(cyclododecyl-amido) titanium dimethyl, diethylsilyl(tetramethylcyclopentadienyl)(exo-2-norbornylamido) titanium dimethyl, diethylsilyl(tetramethylcyclopentadienyl)(cyclohexyl-amido) titanium dimethyl, diethylsilyl(tetramethylcyclopentadienyl)(1-adamantylamido) titanium dimethyl, methylene(tetramethylcyclopentadienyl)(cyclododecyl-amido) titanium dimethyl, methylene(tetramethylcyclopentadienyl)(exo-2-norbornylamido) titanium dimethyl, methylene(tetramethylcyclopentadienyl)(cyclohexylamido) titanium dimethyl, methylene(tetramethylcyclopentadienyl)(1-adamantylamido) titanium dimethyl, dimethylsilyl(tetramethylcyclopentadienyl)(cyclododecylamido) titanium dimethyl, dimethylsilyl(tetramethylcyclopentadienyl)(cyclododecylamido) titanium dimethyl,

dimethylsilyl(tetramethylcyclopentadienyl)(cyclohexyl-amido) titanium dimethyl, dimethylsilyl(tetramethylcyclopentadienyl)(1-adamantylamido) titanium dimethyl, dimethylsilyl(2,5-dimethylcyclopentadienyl)(cyclododecylamido) titanium dimethyl, dimethylsilyl(2,5-dimethylcyclopentadienyl)(exo-2-norbornylamido) titanium dimethyl,

dimethylsilyl(2,5-dimethylcyclopentadienyl)(cyclohexylamido) titanium dimethyl,

dimethylsilyl(2,5-dimethylcyclopentadienyl)(1-adamantylamido) titanium dimethyl, dimethylsilyl(3,4-dimethylcyclopentadienyl)(cyclododecylamido) titanium dimethyl, dimethylsilyl(3,4-dimethylcyclopentadienyl)(exo-2-norbornylamido) titanium dimethyl,

dimethylsilyl(3,4-dimethylcyclopentadienyl)(cyclohexylamido) titanium dimethyl, dimethylsilyl(3,4-dimethylcyclopentadienyl)(1-adamantylamido) titanium dimethyl, dimethylsilyl(2-ethyl-5-methylcyclopentadienyl)(cyclododecylamido)titanium dimethyl,

dimethylsilyl(2-ethyl-5-methylcyclopentadienyl)(exo-2-norbornylamido) titanium dimethyl, dimethylsilyl(2-ethyl-5-methylcyclopentadienyl)(cyclohexylamido) titanium dimethyl,

dimethylsilyl(2-ethyl-5-methylcyclopentadienyl)(1-adamantylamido) titanium dimethyl, dimethylsilyl(3-ethyl-4-methylcyclopentadienyl)(cyclododecylamido)titanium dimethyl,

dimethylsilyl(3-ethyl-4-methylcyclopentadienyl)(exo-2-norbornylamido) titanium dimethyl,

dimethylsilyl(3-ethyl-4-methylcyclopentadienyl)(cyclohexylamido) titanium dimethyl, dimethylsilyl(3-ethyl-4-methylcyclopentadienyl)(1-adamantylamido) titanium dimethyl, dimethylsilyl(2-ethyl-3-hexyl-5-methyl-4-octylcyclopentadienyl)(cyclododecylamido) titanium dimethyl,

dimethylsilyl(2-ethyl-3-hexyl-5-methyl-4-octylcyclopentadienyl)(exo-2-norbornylamido) titanium dimethyl,

dimethylsilyl(2-ethyl-3-hexyl-5-methyl-4-octylcyclopentadienyl)(cyclohexylamido) titanium dimethyl,

dimethylsilyl(2-ethyl-3-hexyl-5-methyl-4-octylcyclopentadienyl)(1-adamantylamido) titanium dimethyl,

dimethylsilyl(2-tetrahydroindenyl)(cyclododecylamido) titanium dimethyl, dimethylsilyl(2-tetrahydroindenyl)(cyclohexylamido) titanium dimethyl, dimethylsilyl(2-tetrahydroindenyl)(1-adamantylamido) titanium dimethyl, and dimethylsilyl(2-tetrahydroindenyl)(exo-2-norbornylamido) titanium dimethyl.

41. (withdrawn) The process of claim 35 wherein the second catalyst component comprises one or more of the racemic versions of:

dimethylsilyl (2-methyl-4-phenylindenyl) zirconium dichloride, dimethylsilyl (2-methyl-4-phenylindenyl) zirconium dimethyl, dimethylsilyl (2-methyl-4-phenylindenyl) hafnium dichloride, dimethylsilyl (2-methyl-4-phenylindenyl) hafnium dimethyl, dimethylsilyl bis(indenyl)hafnium dimethyl, dimethylsilyl bis(indenyl)hafnium dichloride, dimethylsilyl bis(indenyl)ziconium dimethyl, dimethylsilyl bis(indenyl)zirconium dichloride, the racemic isomers of: dimethylsilanediylbis(2-methylindenyl)metal dichloride: dimethylsilanediylbis(indenyl)metal dichloride: dimethylsilanediylbis(indenyl)metal dimethyl; dimethylsilanediylbis(tetrahydroindenyl)metal dichloride; dimethylsilanediylbis(tetrahydroindenyl)metal dimethyl; dimethylsilanediylbis(indenyl)metal diethyl; and dibenzylsilanediylbis(indenyl)metal dimethyl; wherein the metal can be chosen from Zr, Hf, ОГ Ti.

- 42. (withdrawn) The process of claim 35 wherein the activator comprises an alumoxane.
- 43. (withdrawn) The process of claim 35 wherein the activator comprises an ionizing compound.
- 44. (withdrawn) The process of claim 35 wherein the activator comprises a non-coordinating anion.
- 45. (withdrawn) The process of claim 35 wherein the activator comprises one or more of methylalumoxane, trimethylammonium tetraphenylborate, triethylammonium tetraphenylborate, tripropylammonium tetraphenylborate, tri(n-butyl)ammonium tetraphenylborate, tri(t-butyl)ammonium tetraphenylborate,

N,N-dimethylanilinium tetraphenylborate. N,N-diethylanilinium tetraphenylborate, N,N-dimethyl-(2,4,6-trimethylanilinium) tetraphenylborate, trimethylammonium tetrakis(pentafluorophenyl)borate, triethylammonium tetrakis(pentafluorophenyl)borate, tripropylammonium tetrakis(pentafluorophenyl)borate, tri(n-butyl)ammonium tetrakis(pentafluorophenyl)borate, tri(sec-butyl)ammonium tetrakis(pentafluorophenyl) borate, N,N-dimethylanilinium tetrakis(pentafluorophenyl) borate, N,N-diethylanilinium tetrakis(pentafluorophenyl) borate, N,N-dimethyl-(2,4,6-trimethylanilinium) tetrakis(pentafluorophenyl) borate, trimethylammonium tetrakis-(2,3,4,6-tetrafluorophenylborate, triethylammonium tetrakis-(2,3,4,6-tetrafluorophenyl) borate, tripropylammonium tetrakis-(2,3,4,6-tetrafluorophenyl) borate, tri(n-butyl)ammonium tetrakis-(2,3,4,6-tetrafluoro-phenyl) borate, dimethyl(t-butyl)ammonium tetrakis-(2,3,4,6-tetrafluorophenyl) borate, N,N-dimethylanilinium tetrakis-(2,3,4,6-tetrafluorophenyl) borate, N,N-diethylanilinium tetrakis-(2,3,4,6-tetrafluorophenyl) borate, and N,N-dimethyl-(2,4,6-trimethylanilinium)tetrakis-(2,3,4,6-tetrafluorophenyl) borate; di-(i-propyl)ammonium tetrakis(pentafluorophenyl) borate; dicyclohexylammonium tetrakis(pentafluorophenyl) borate; triphenylphosphonium tetrakis(pentafluorophenyl) borate; tri(o-tolyl)phosphonium tetrakis(pentafluorophenyl) borate; and tri(2,6-dimethylphenyl)phosphonium tetrakis(pentafluorophenyl) borate.

- 46. (withdrawn) The process of claim 35 wherein the first catalyst component is capable of polymerizing macromonomers having reactive termini; and the second component is capable of producing macromonomers having reactive termini.
- 47. (withdrawn) The process of claim 35 wherein the first catalyst component comprises one or more of di(p-triethylsilylphenyl)methylene(cyclopentadienyl)(3,8-di-t-butylfluorenyl) zirconium dichloride, di(p-triethylsilylphenyl)methylene(cyclopentadienyl)(3,8-di-t-

butylfluorenyl) hafnium dichloride. di(ptriethylsilylphenyl)methylene(cyclopentadienyl)(3,8-di-t-butylfluorenyl) zirconium di(p-triethylsilylphenyl)methylene(cyclopentadienyl)(3,8-di-tdimethyl, butylfluorenyl) hafnium dimethyl, di(ptriethylsilylphenyl)methylene(cyclopentadienyl)(3,3,6,6,9,9,12,12-octamethyl-4,4,5,5,8,8,9,9-octahydrodibenzyl[b,h]fluorenyl) zirconium dichloride, di(ptriethylsilylphenyl)methylene(cyclopentadienyl)(3,3,6,6,9,9,12,12-octamethyl-4,4,5,5,8,8,9,9-octahydrodibenzyl[b,h]fluorenyl) hafnium dichloride, di(p-4,4,5,5,8,8,9,9-octahydrodibenzyl[b,h]fluorenyl) zirconium dimethyl, di(ptriethylsilylphenyl)methylene(cyclopentadienyl)(3,3,6,6,9,9,12,12-octamethyl-4,4,5,5,8,8,9,9-octahydrodibenzyl[b,h]fluorenyl) hafnium dimethyl, and the meso forms of: dimethylsilylbis(indenyl) zirconium dichloride, dimethylsilylbis(indenyl) zirconium dimethyl, ethylenebis(indenyl) zirconium dichloride, ethylenebis(indenyl) zirconium dimethyl, dimethylsilylbis(indenyl) hafnium dichloride, dimethylsilylbis(indenyl) hafnium dimethyl, ethylenebis(indenyl) hafnium dichloride, ethylenebis(indenyl) hafnium dimethyl, dimethylsilylbis(tetrahydroindenyl) zirconium dichloride. dimethylsilylbis(tetrahydroindenyl) zirconium dimethyl, ethylenebis(tetrahydroindenyl) zirconium dichloride. ethylenebis(tetrahydroindenyl) zirconium dimethyl, dimethylsilylbis(tetrahydroindenyl) hafnium dichloride, dimethylsilylbis(tetrahydroindenyl) hafnium dimethyl, ethylenebis(tetrahydroindenyl) hafnium dichloride, ethylenebis(tetrahydroindenyl) hafnium dimethyl. dimethylsilylbis(2-methylindenyl) zirconium dichloride, dimethylsilylbis(2methylindenyl) zirconium dimethyl, ethylenebis(2-methylindenyl) zirconium dichloride, ethylenebis(2-methylindenyl) zirconium dimethyl, dimethylsilylbis(2methylindenyl) hafnium dichloride, dimethylsilylbis(2-methylindenyl) dimethyl, ethylenebis(2-methylindenyl) hafnium dichloride, and ethylenebis(2methylindenyl) hafnium dimethyl.

48. (withdrawn) The process of claim 35 wherein the monomers comprise propylene and butene.

- 49. (withdrawn) The process of claim 35 further comprising diolefin.
- 50. (withdrawn) The process of claim 49 wherein the diolefin comprises one or more C4 to C40 diolefins.
- 51. (withdrawn) The process of claim 50 wherein the wherein the diolefin is selected from the group consisting of 1,6-heptadiene, 1,7-octadiene, 1,8-nonadiene, 1,9-decadiene, 1,10-undecadiene, 1,11-dodecadiene, 1,12-tridecadiene, 1,13-tetradecadiene, cyclopentadiene, vinylnorbornene, norbornadiene, ethylidene norbornene, divinylbenzene, dicyclopentadiene, polybutadienes having an Mw less than 1000 g/mol, or combinations thereof.
- 52. (withdrawn) The process of claim 49 further comprising one or more dienes selected from the group consisting of 1,6-heptadiene, 1,7-octadiene, 1,8-nonadiene, 1,9-decadiene, 1,10-undecadiene, 1,11-dodecadiene, 1,12-tridecadiene, 1,13-tetradecadiene, cyclopentadiene, vinylnorbornene, norbornadiene, ethylidene norbornene, divinylbenzene, dicyclopentadiene, polybutadienes having an Mw less than 1000 g/mol, or combinations thereof.
- 53. (withdrawn) The process of claim 35 wherein the reaction zone is a gas phase reactor.
- 54. (withdrawn) The process of claim 35 wherein the reaction zone is a solution phase reactor.
- 55. (withdrawn) The process of claim 35 wherein the reaction zone is a slurry phase reactor.
- 56. (withdrawn) The process of claim 36 wherein the reaction zone is a solution phase reactor.
- 57. (withdrawn) The process of claim the catalysts comprise one or more of the following combinations (where Me equals methyl, Ph equals phenyl, Et equals ethyl, Cp equals cyclopentadienyl, 3,6-di-t-BuFlu equals 3,8-di-tert-butylfluorenyl, 2-Me-4-PhInd

equals 2-methyl-4-phenylindenyl, 2-MeInd means 2-methylindenyl, c- $C_{12}H_{23}$  equals cyclododecyl, Me<sub>4</sub>C<sub>5</sub> - tetramethylcyclopentadienyl, H<sub>4</sub>Ind equals tetrahydroindenyl, and Ind equals indenyl):

- (1) Me<sub>2</sub>Si(Me<sub>4</sub>C<sub>5</sub>)(N-c-C<sub>12</sub>H<sub>23</sub>)TiCl<sub>2</sub> and rac-Me<sub>2</sub>Si(2-Me-4-PhInd)<sub>2</sub>ZrCl<sub>2</sub> activated with an alumoxane;
- (2) Me<sub>2</sub>Si(Me<sub>4</sub>C<sub>5</sub>)(N-c-C<sub>12</sub>H<sub>23</sub>)TiMe<sub>2</sub> and rac-Me<sub>2</sub>Si(2-Me-4-PhInd)<sub>2</sub>ZrMe<sub>2</sub> activated with a non-coordinating anion activator,
- (2a) Me<sub>2</sub>Si(Me<sub>4</sub>C<sub>5</sub>)(N-c-C<sub>12</sub>H<sub>23</sub>)TiMe<sub>2</sub> and rac-Me<sub>2</sub>Si(2-Me-4-PhInd)<sub>2</sub>ZrMe<sub>2</sub> activated with N,N-dimethylanilinium tetrakis(pentaflourophenyl)boron and or triphenylcarbonium tetrakis(pentaflourophenyl)boron;
- (3) Me<sub>2</sub>Si(Me<sub>4</sub>C<sub>5</sub>)(N-c-C<sub>12</sub>H<sub>23</sub>)TiCl<sub>2</sub> and rac-Me<sub>2</sub>Si(2-MeInd)<sub>2</sub>ZrCl<sub>2</sub> activated with an alumoxane;
- (4) Me<sub>2</sub>Si(Me<sub>4</sub>C<sub>5</sub>)(N-c-C<sub>12</sub>H<sub>23</sub>)TiMe<sub>2</sub> and rac-Me<sub>2</sub>Si(2-MeInd)<sub>2</sub>ZrMe<sub>2</sub> activated with a non-coordinating anion activator;
- (4a) Me<sub>2</sub>Si(Me<sub>4</sub>C<sub>5</sub>)(N-c-C<sub>12</sub>H<sub>23</sub>)TiMe<sub>2</sub> and rac-Me<sub>2</sub>Si(2-MeInd)<sub>2</sub>ZrMe<sub>2</sub> activated with N,N-dimethylanilinium tetrakis(pentaflourophenyl)boron and or triphenylcarbonium tetrakis(pentaflourophenyl)boron;
- (5) Me<sub>2</sub>Si(Me<sub>4</sub>C<sub>5</sub>)(N-1-adamantyl)TiCl<sub>2</sub> and rac-Me<sub>2</sub>Si(2-Me-4-PhInd)<sub>2</sub>ZrCl<sub>2</sub> activated with an alumoxane;
- (6) Me<sub>2</sub>Si(Me<sub>4</sub>C<sub>5</sub>)(N-1-adamantyl)TiMe<sub>2</sub> and rac-Me<sub>2</sub>Si(2-Me-4-PhInd)<sub>2</sub>ZrMe<sub>2</sub> activated with a non-coordinating anion activator;
- (6a) Me<sub>2</sub>Si(Me<sub>4</sub>C<sub>5</sub>)(N-1-adamantyl)TiMe<sub>2</sub> and rac-Me<sub>2</sub>Si(2-Me-4-PhInd)<sub>2</sub>ZrMe<sub>2</sub> activated with N,N-dimethylanilinium tetrakis(pentaflourophenyl)boron and or triphenylcarbonium tetrakis(pentaflourophenyl)boron;

- (7) Me<sub>2</sub>Si(Me<sub>4</sub>C<sub>5</sub>)(N-1-adamantyl)TiCl<sub>2</sub> and rac-Me<sub>2</sub>Si(2-MeInd)<sub>2</sub>ZrCl<sub>2</sub> activated with an alumoxane;
- (8) Me<sub>2</sub>Si(Me<sub>4</sub>C<sub>5</sub>)(N-1-adamantyl)TiMe<sub>2</sub> and rac-Me<sub>2</sub>Si(2-MeInd)<sub>2</sub>ZrMe<sub>2</sub> activated with a non-coordinating anion activator;
- (8a) Me<sub>2</sub>Si(Me<sub>4</sub>C<sub>5</sub>)(N-1-adamantyl)TiMe<sub>2</sub> and rac-Me<sub>2</sub>Si(2-MeInd)<sub>2</sub>ZrMe<sub>2</sub> activated with N,N-dimethylanilinium tetrakis(pentaflourophenyl)boron and or triphenylcarbonium tetrakis(pentaflourophenyl)boron;
- (9) Me<sub>2</sub>Si(Me<sub>4</sub>C<sub>5</sub>)(N-t-butyl)TiCl<sub>2</sub> and rac-Me<sub>2</sub>Si(2-Me-4-PhInd)<sub>2</sub>ZrCl<sub>2</sub> activated with an alumo cane;
- (10) Me<sub>2</sub>Si(Me<sub>4</sub>C<sub>5</sub>)(N-t-butyl)TiMe<sub>2</sub> and rac-Me<sub>2</sub>Si(2-Me-4-PhInd)<sub>2</sub>ZrMe<sub>2</sub> activated with a non-coordinating anion activator;
- (10a) Me<sub>2</sub>Si(Me<sub>4</sub>C<sub>5</sub>)(N-t-butyl)TiMe<sub>2</sub> and rac-Me<sub>2</sub>Si(2-Me-4-PhInd)<sub>2</sub>ZrMe<sub>2</sub> activated with N,N-dimethylanilinium tetrakis(pentaflourophenyl)boron and or triphenylcarbonium tetrakis(pentaflourophenyl)boron;
- (11) Me<sub>2</sub>Si(Me<sub>4</sub>C<sub>5</sub>)(N-t-butyl)TiCl<sub>2</sub> and rac-Me<sub>2</sub>Si(2-MeInd) activated with an alumoxane;
- (12) Me<sub>2</sub>Si(Me<sub>4</sub>C<sub>5</sub>)(N-t-butyl)TiMe<sub>2</sub> and rac-Me<sub>2</sub>Si(2-MeInd)<sub>2</sub>ZrMe<sub>2</sub> activated with a non-coordinating anion activator;
- (12a) Me<sub>2</sub>Si(Me<sub>4</sub>C<sub>5</sub>)(N-t-butyl)TiMe<sub>2</sub> and rac-Me<sub>2</sub>Si(2-MeInd)<sub>2</sub>ZrMe<sub>2</sub> activated with N,N-dimethylanilinium tetrakis(pentaflourophenyl)boron and or triphenylcarbonium tetrakis(pentaflourophenyl)boron;
- (13) Me<sub>2</sub>Si(Me<sub>4</sub>C<sub>5</sub>)(N-exo-norbornyl)TiCl<sub>2</sub> and rac-Me<sub>2</sub>Si(2-Me-4-PhInd)<sub>2</sub>ZrCl<sub>2</sub> activated with an alumoxane;

- (14) Me<sub>2</sub>Si(Me<sub>4</sub>C<sub>5</sub>)(N-exo-norbornyl)TiMe<sub>2</sub> and rac-Me<sub>2</sub>Si(2-Me-4-PhInd)<sub>2</sub>ZrMe<sub>2</sub> activated with a non-coordinating anion activator;
- (14a) Me<sub>2</sub>Si(Me<sub>4</sub>C<sub>5</sub>)(N-exo-norbornyl)TiMe<sub>2</sub> and rac-Me<sub>2</sub>Si(2-Me-4-PhInd)<sub>2</sub>ZrMe<sub>2</sub> activated with N,N-dimethylanilinium tetrakis(pentaflourophenyl)boron and or triphenylcarborium tetrakis(pentaflourophenyl)boron;
- (15) Me<sub>2</sub>Si(Me<sub>4</sub>C<sub>5</sub>)(N-exo-norbornyl)TiCl<sub>2</sub> and rac-Me<sub>2</sub>Si(2-MeInd)<sub>2</sub>ZrCl<sub>2</sub> activated with an alumoxane;
- (16) Me<sub>2</sub>Si(Me<sub>4</sub>C<sub>5</sub>)(N-exo-norbornyl)TiMe<sub>2</sub> and rac-Me<sub>2</sub>Si(2-MeInd)<sub>2</sub>ZrMe<sub>2</sub> activated with a non-coordinating anion activator;
- (16a) Me<sub>2</sub>Si(Me<sub>4</sub>C<sub>5</sub>) N-exo-norbornyl)TiMe<sub>2</sub> and rac-Me<sub>2</sub>Si(2-McInd)<sub>2</sub>ZrMe<sub>2</sub> activated with N,N-dimethylanilinium tetrakis(pentaflourophenyl)boron and or triphenylcarbonium tetrakis(pentaflourophenyl)boron;
- (17) (p-Et<sub>3</sub>SiPh)<sub>2</sub>C(Cp)(3,8-di-t-BuFlu)HfCl<sub>2</sub> and rac-Me<sub>2</sub>Si(2-Me-4-PhInd)<sub>2</sub>ZrCl<sub>2</sub> activated with an alumoxane;
- (18) (p-Et<sub>3</sub>SiPh)<sub>2</sub>C(Cp)(3,8-di-t-BuFlu)HfMe<sub>2</sub> and rac-Me<sub>2</sub>Si(2-Me-4-PhInd)<sub>2</sub>ZrMe<sub>2</sub> activated with a non-coordinating anion activator;
- (18a) (p-Et<sub>3</sub>SiPh)<sub>2</sub>C(Cp)(3,8-di-t-BuFlu)HfMe<sub>2</sub> and rac-Me<sub>2</sub>Si(2-Me-4-PhInd)<sub>2</sub>ZrMe<sub>2</sub> activated with N,N-dimethylanilinium tetrakis(pentafleurophenyl)boron and or triphenylcarbonium tetrakis(pentafleurophenyl)boron;
- (19) (p-Et<sub>3</sub>SiPh)<sub>2</sub>C(**cp**)(3,8-di-t-BuFlu)HfCl<sub>2</sub> and rac-Me<sub>2</sub>Si(2-MeInd)<sub>2</sub>ZrCl<sub>2</sub> activated with a alumoxane;
- (20) (p-Et<sub>3</sub>SiPh)<sub>2</sub>C(Cp)(3,8-di-t-BuFlu)HfMe<sub>2</sub> and rac-Me<sub>2</sub>Si(2-MeInd)<sub>2</sub>ZrMe<sub>2</sub> activated with a tion-coordinating anion activator;

- (20a) (p-Et<sub>3</sub>SiPh)<sub>2</sub>Ccp)(3,8-di-t-BuFlu)HfMe<sub>2</sub> and rac-Me<sub>2</sub>Si(2-MeInd)<sub>2</sub>ZrMe<sub>2</sub> activated with N,N-dimethylanilinium tetrakis(pentaflourophenyl)boron and or triphenylcarbonium tetrakis(pentaflourophenyl)boron;
- (21) meso-CH<sub>2</sub>CH<sub>2</sub>Ind)<sub>2</sub>ZrCl<sub>2</sub> and rac-Me<sub>2</sub>Si(H<sub>4</sub>Ind)<sub>2</sub>ZrCl<sub>2</sub> activated with an alumoxane;
- (22) meso-CH<sub>2</sub>CH<sub>2</sub>Ind)<sub>2</sub>ZrMe<sub>2</sub> and rac-Me<sub>2</sub>Si(H<sub>4</sub>Ind)<sub>2</sub>ZrMe<sub>2</sub> activated with a non-coordinating aroon activator;
- (22a) meso-CH<sub>2</sub>CH<sub>2</sub>cind)<sub>2</sub>ZrMe<sub>2</sub> and rac-Me<sub>2</sub>Si(H<sub>4</sub>Ind)<sub>2</sub>ZrMe<sub>2</sub> activated with N,N-dimethylanilint tetrakis(pentaflourophenyl)boron and or triphenylcarbor um tetrakis(pentaflourophenyl)boron;
- (23) meso-CH<sub>2</sub>CH<sub>2</sub>and)<sub>2</sub>ZrCl<sub>2</sub> and rac-Me<sub>2</sub>Si(2-MeInd)<sub>2</sub>ZrCl<sub>2</sub> activated with an alumoxane;
- (24) meso-CH<sub>2</sub>CH<sub>2</sub> and part and rac-Me<sub>2</sub>Si(2-MeInd)<sub>2</sub>ZrMe<sub>2</sub> activated with a non-coordinating anion activator;
- (24a) meso-CH<sub>2</sub>CH<sub>2</sub> and rac-Me<sub>2</sub>Si(2-MeInd)<sub>2</sub>ZrMe<sub>2</sub> activated with N,N-dimethyla linium tetrakis(pentaflourophenyl)boron and or triphenylcarbor turn tetrakis(pentaflourophenyl)boron;
- (25) meso-Me<sub>2</sub>Si(Inte<sub>2</sub>ZrCl<sub>2</sub> and rac-Me<sub>2</sub>Si(H<sub>4</sub>Ind)<sub>2</sub>ZrCl<sub>2</sub> activated with an alumoxane;
- (26) meso-Me<sub>2</sub>Si(Inte<sub>2</sub>ZrMe<sub>2</sub> and rac-Me<sub>2</sub>Si(H<sub>4</sub>Ind)<sub>2</sub>ZrMe<sub>2</sub> activated with a non-coordinating an in activator;

- (26a) meso-Me<sub>2</sub>Si(1 d)<sub>2</sub>ZrMe<sub>2</sub> and rac-Me<sub>2</sub>Si(H<sub>4</sub>Ind)<sub>2</sub>ZrMe<sub>2</sub> activated with N<sub>2</sub>N-dimethylanilit um tetrakis(pentaflourophenyl)boron and or triphenylcarbonium tetrakis(pentaflourophenyl)boron;
- (27) meso-Me<sub>2</sub>Si(Izi)<sub>2</sub>ZrCl<sub>2</sub> and rac-Me<sub>2</sub>Si(2-MeInd)<sub>2</sub>ZrCl<sub>2</sub> activated with an alumoxane;
- (28) meso-Me<sub>2</sub>Si(I<sub>1</sub>1)<sub>2</sub>ZrMe<sub>2</sub> and rac-Me<sub>2</sub>Si(2-MeInd)<sub>2</sub>ZrMe<sub>2</sub> activated with a non-coordinate g anion activator;
- (28a) meso-Me<sub>2</sub>Si(ln;i)<sub>2</sub>ZrMe<sub>2</sub> and rac-Me<sub>2</sub>Si(2-MeInd)<sub>2</sub>ZrMe<sub>2</sub> activated with N,N-dimethylaniling tetrakis(pentaflourophenyl)boron and or triphenylcarborium tetrakis(pentaflourophenyl)boron;
- (29) meso-Me<sub>2</sub>Si(2-MeInd)<sub>2</sub>ZrCl<sub>2</sub> and rac-Me<sub>2</sub>Si(2-Me-4-PhInd)<sub>2</sub>ZrCl<sub>2</sub> activated with an alumove the;
- (30) meso-Me<sub>2</sub>Si(2-Melnd)<sub>2</sub>ZrMe<sub>2</sub> and rac-Me<sub>2</sub>Si(2-Me-4-PhInd)<sub>2</sub>ZrMe<sub>2</sub> activated with a non-coordinating anion activator;
- (30a) meso-Me<sub>2</sub>Si(2-teInd)<sub>2</sub>ZrMe<sub>2</sub> and rac-Me<sub>2</sub>Si(2-Me-4-PhInd)<sub>2</sub>ZrMe<sub>2</sub> activated with N,N-directhylanilinium tetrakis(pentaflourophenyl)boron and or triphenylcarborum tetrakis(pentaflourophenyl)boron;
- (31) meso-Me<sub>2</sub>Si(2-MeInd)<sub>2</sub>ZrCl<sub>2</sub> and rac-Me<sub>2</sub>Si(2-MeInd)<sub>2</sub>ZrCl<sub>2</sub> activated with an alumoxane;
- (32) meso-Me<sub>2</sub>Si(2-MeInd)<sub>2</sub>ZrMe<sub>2</sub> and rac-Me<sub>2</sub>Si(2-MeInd)<sub>2</sub>ZrMe<sub>2</sub> activated with a non-coordinate g anion activator;
- (32a) meso-Me<sub>2</sub>Si(2-IpeInd)<sub>2</sub>ZrMe<sub>2</sub> and rac-Me<sub>2</sub>Si(2-MeInd)<sub>2</sub>ZrMe<sub>2</sub> activated with N,N-dimethylar inium tetrakis(pentaflourophenyl)boron and or triphenylcarbon m tetrakis(pentaflourophenyl)boron;

- (33) meso-CH<sub>2</sub>CH 2-MeInd)<sub>2</sub>ZrCl<sub>2</sub> and rac-Me<sub>2</sub>Si(2-Me-4-PhInd)<sub>2</sub>ZrCl<sub>2</sub> activated with an alumcane;
- (34) meso-CH<sub>2</sub>CH<sub>2</sub>2-MeInd)<sub>2</sub>ZrMe<sub>2</sub> and rac-Me<sub>2</sub>Si(2-Me-4-PhInd)<sub>2</sub>ZrMe<sub>2</sub> activated with non-coordinating anion activator;
- (34a) meso-CH<sub>2</sub>CH: 2-MeInd)<sub>2</sub>ZrMe<sub>2</sub> and rac-Me<sub>2</sub>Si(2-Me-4-PhInd)<sub>2</sub>ZrMe<sub>2</sub> activated with [,N-dimethylanilinium tetrakis(pentaflourophenyl)boron and or triphenylcarbo um tetrakis(pentaflourophenyl)boron;
- (35) meso-CH<sub>2</sub>CH<sub>2</sub>C-MeInd)<sub>2</sub>ZrCl<sub>2</sub> and rac-Me<sub>2</sub>Si(2-MeInd)<sub>2</sub>ZrCl<sub>2</sub> activated with an alumoxane;
- (36) meso-CH<sub>2</sub>CH<sub>2</sub> -MeInd)<sub>2</sub>ZrMe<sub>2</sub> and rac-Me<sub>2</sub>Si(2-MeInd)<sub>2</sub>ZrMe<sub>2</sub> activated with a non-coordinating anion activator;
- (36a) meso-CH<sub>2</sub>CH<sub>2</sub>C-MeInd)<sub>2</sub>ZrMe<sub>2</sub> and rac-Me<sub>2</sub>Si(2-MeInd)<sub>2</sub>ZrMe<sub>2</sub> activated with N,N-directhylanilinium tetrakis(pentaflourophenyl)boron and or triphenylcarbor im tetrakis(pentaflourophenyl)boron;
- (37) meso-Me<sub>2</sub>Si(2-Me-4-PhInd)<sub>2</sub>ZrCl<sub>2</sub> and rac-Me<sub>2</sub>Si(2-Me-4-PhInd)<sub>2</sub>ZrCl<sub>2</sub> activated with at alumoxane;
- (38) meso-Me<sub>2</sub>Si(2-Ne-4-PhInd)<sub>2</sub>ZrMe<sub>2</sub> and rac-Me<sub>2</sub>Si(2-Me-4-PhInd)<sub>2</sub>ZrMe<sub>2</sub> activated with a con-coordinating anion activator;
- (38a) meso-Me<sub>2</sub>Si(2-le-4-PhInd)<sub>2</sub>ZrMe<sub>2</sub> and rac-Me<sub>2</sub>Si(2-Me-4-PhInd)<sub>2</sub>ZrMe<sub>2</sub> activated with N N-dimethylanilinium tetrakis(pentaflourophenyl)boron and or triphenylcarbon im tetrakis(pentaflourophenyl)boron;
- (39) meso-CH<sub>2</sub>CH<sub>2</sub>(2 Me-4-PhInd)<sub>2</sub>ZrCl<sub>2</sub> and rac-CH<sub>2</sub>CH<sub>2</sub>(2-Me-4-PhInd)<sub>2</sub>ZrCl<sub>2</sub> activated with a alumoxane;

- (40) meso-CH<sub>2</sub>CH<sub>1</sub>(2-Me-4-PhInd)<sub>2</sub>ZrMe<sub>2</sub> and rac-CH<sub>2</sub>CH<sub>2</sub>(2-Me-4-PhInd)<sub>2</sub>ZrMe<sub>2</sub> activated with a non-coordinating anion activator;
- (40a) meso-CH<sub>2</sub>CII<sub>2</sub>2-Me-4-PhInd)<sub>2</sub>ZrMe<sub>2</sub> and rac-CH<sub>2</sub>CH<sub>2</sub>(2-Me-4-PhInd)<sub>2</sub>ZrMe<sub>2</sub> activated with N,N-dimethylanilinium tetrakis(pentaflourophenyl)boron and or triphenylcarborium tetrakis(pentaflourophenyl)boron;
- (41) meso-CH<sub>2</sub>CH<sub>2</sub> 2-MeInd)<sub>2</sub>ZrCl<sub>2</sub> and rac-CH<sub>2</sub>CH<sub>2</sub>(2-MePhInd)<sub>2</sub>ZrCl<sub>2</sub> activated with an alumorane;
- (42) meso-CH<sub>2</sub>CH<sub>2</sub> d-MeInd)<sub>2</sub>ZrMe<sub>2</sub> and rac-CH<sub>2</sub>CH<sub>2</sub>(2-MeInd)<sub>2</sub>ZrMe<sub>2</sub> activated with a non-coordinating anion activator;
- (42a) meso-CH<sub>2</sub>CH<sub>2</sub> d-MeInd)<sub>2</sub>ZrMe<sub>2</sub> and rac-CH<sub>2</sub>CH<sub>2</sub>(2-MeInd)<sub>2</sub>ZrMe<sub>2</sub> activated with N,N-dimethylanilinium tetrakis(pentaflourophenyl)boron and or triphenylcarbor turn tetrakis(pentaflourophenyl)boron;
- (43) meso-CH<sub>2</sub>Cl I<sub>2</sub>(Ind)<sub>2</sub>ZrCl<sub>2</sub> and rac-CH<sub>2</sub>CH<sub>2</sub>(Ind)<sub>2</sub>ZrCl<sub>2</sub> activated with an alumoxane;
- (44) meso-CH<sub>2</sub>CH<sub>2</sub>(1)d)<sub>2</sub>ZrMe<sub>2</sub> and rac-CH<sub>2</sub>CH<sub>2</sub>(Ind)<sub>2</sub>ZrMe<sub>2</sub> activated with a non-coordinating and an activator;
- (44a) meso-CH<sub>2</sub>CH<sub>2</sub>(11d)<sub>2</sub>ZrMe<sub>2</sub> and rac-CH<sub>2</sub>CH<sub>2</sub>(Ind)<sub>2</sub>ZrMe<sub>2</sub> activated with N,N-dimethylanilinium tetrakis(pentaflourophenyl)boron and or triphenylcarbon um tetrakis(pentaflourophenyl)boron;
- (45) meso-Me<sub>2</sub>Si(Ind) ZrCl<sub>2</sub> and rac-Me<sub>2</sub>Si(Ind)<sub>2</sub>ZrCl<sub>2</sub> activated with an alumoxane;
- (46) meso-Me<sub>2</sub>Si(Ind ZrMe<sub>2</sub> and rac-Me<sub>2</sub>Si(Ind)<sub>2</sub>ZrMe<sub>2</sub> activated with a non-coordinating anima activator;

- (46a) meso-Me<sub>2</sub>Si(Ind)<sub>2</sub>ZrMe<sub>2</sub> and rac-Me<sub>2</sub>Si(Ind)<sub>2</sub>ZrMe<sub>2</sub> activated with N,N-dimethylanilistum tetrakis(pentaflourophenyl)boron and or triphenylcarbenium tetrakis(pentaflourophenyl)boron;
- (47) meso-CH<sub>2</sub>CH<sub>2</sub>Ind)<sub>2</sub>ZrCl<sub>2</sub> and rac-CH<sub>2</sub>CH<sub>2</sub>(4,7-Me<sub>2</sub>Ind)<sub>2</sub>ZrCl<sub>2</sub> (4,7-Me<sub>2</sub>Ind = 4,7-dimethylia lenyl) activated with an alumoxane;
- (48) meso-CH<sub>2</sub>CH lnd)<sub>2</sub>ZrMe<sub>2</sub> and rac-CH<sub>2</sub>CH<sub>2</sub>(4,7-Me<sub>2</sub>Ind)<sub>2</sub>ZrMe<sub>2</sub> activated with a non-coordinating anion activator;
- (48a) meso-CH<sub>2</sub>CH<sub>2</sub>Ind)<sub>2</sub>ZrMe<sub>2</sub> and rac-CH<sub>2</sub>CH<sub>2</sub>(4,7-Me<sub>2</sub>Ind)<sub>2</sub>ZrMe<sub>2</sub> activated with N,N-directhylanilinium tetrakis(pentaflourophenyl)boron and or triphenylcarborium tetrakis(pentaflourophenyl)boron;
- (49) meso-Me<sub>2</sub>Si(Int)<sub>2</sub>ZrCl<sub>2</sub> and rac-CH<sub>2</sub>CH<sub>2</sub>(4,7-Me<sub>2</sub>Ind)<sub>2</sub>ZrCl<sub>2</sub> activated with an alumoxane;
- (50) meso-Me<sub>2</sub>Si(I<sub>1</sub>)<sub>2</sub>ZrMe<sub>2</sub> and rac-CH<sub>2</sub>CH<sub>2</sub>(4,7-Me<sub>2</sub>Ind)<sub>2</sub>ZrMe<sub>2</sub> activated with a non-coordinating anion activator;
- (50a) meso-Me<sub>2</sub>Si(Irk)<sub>2</sub>ZrMe<sub>2</sub> and rac-CH<sub>2</sub>CH<sub>2</sub>(4,7-Me<sub>2</sub>Ind)<sub>2</sub>ZrMe<sub>2</sub> activated with N,N-dimethyla illinium tetrakis(pentaflourophenyl)boron and or triphenylcarbor um tetrakis(pentaflourophenyl)boron;
- (51) meso-CH<sub>2</sub>CH<sub>2</sub> -MeInd)<sub>2</sub>ZrCl<sub>2</sub> and rac-CH<sub>2</sub>CH<sub>2</sub>(4,7-Me<sub>2</sub>Ind)<sub>2</sub>ZrCl<sub>2</sub> (4,7-Me<sub>2</sub>Ind = 4,7-d methylindenyl) activated with an alumoxane;
- (52) meso-CH<sub>2</sub>CH<sub>2</sub> -MeInd)<sub>2</sub>ZrMe<sub>2</sub> and rac-CH<sub>2</sub>CH<sub>2</sub>(4,7-Me<sub>2</sub>Ind)<sub>2</sub>ZrMe<sub>2</sub> activated with a non-coordinating anion activator;

- (52a) meso-CH<sub>2</sub>CH<sub>2</sub>(2-Melnd)<sub>2</sub>ZrMe<sub>2</sub> and rac-CH<sub>2</sub>CH<sub>2</sub>(4,7-Me<sub>2</sub>Ind)<sub>2</sub>ZrMe<sub>2</sub> activated with N,N-dimethylanilinium tetrakis(pentaflourophenyl)boron and or triphenylcarbo ium tetrakis(pentaflourophenyl)boron;
- (53) meso-Me<sub>2</sub>Si(2 MeInd)<sub>2</sub>ZrCl<sub>2</sub> and rac-CH<sub>2</sub>CH<sub>2</sub>(4,7-Me<sub>2</sub>Ind)<sub>2</sub>ZrCl<sub>2</sub> activated with an alumo ane:
- (54) meso-Me<sub>2</sub>Si(2 MeInd)<sub>2</sub>ZrMe<sub>2</sub> and rac-CH<sub>2</sub>CH<sub>2</sub>(4,7-Me<sub>2</sub>Ind)<sub>2</sub>ZrMe<sub>2</sub> activated with a non-coordinating anion activator;
- (54a) meso-Me<sub>2</sub>Si(2-MeInd)<sub>2</sub>ZrMe<sub>2</sub> and rac-CH<sub>2</sub>CH<sub>2</sub>(4,7-Me<sub>2</sub>Ind)<sub>2</sub>ZrMe<sub>2</sub> activated with such as N N-dimethylanilinium tetrakis(pentaflourophenyl)boron and or triphenylcarbor um tetrakis(pentaflourophenyl)boron;
- original) A composition comprising a homopolymer of propylene and or a copolymer of propylene and one or more of butene, pentene, hexene, octene, nonene, and decene, wherein the copolymer comprises less than 50 mole% ethylene, and wherein the homopolymer or copol mer has a Dot T-Peel of 3 or more Newtons; a viscosity of 8000 mPa•sec or less at 190 °C; a branching index (g') of 0.85 or less measured at the Mz of the polymer; and an MY of 100,000 or less.
- 59. (original) The composition of claim 58 wherein the homopolymer or copolymer has an Mz of 20,000-500,000.
- 60. (original) The composition of claim 58 wherein the homopolymer or copolymer has a SAFT of 60 to 130°C.
- 61. (original) The composition of claim 58 wherein the homopolymer or copolymer has a shore hardness of 60 or 25s.
- 62. (original) The composition of claim 58 wherein the homopolymer or copolymer has a set time of 2 seconds or 25s.

63. (original) The composition of claim 58 wherein the homopolymer or copolymer has a branching index (g') at 0.80 or less.

ECLT FORMALITIES BPC

- 64. (original) The composition of claim 58 wherein the homopolymer or copolymer has a heat of fusion of 20-5 J/g.
- 65. (original) A composition comprising a polymer of propylene, having from 0 to 5 mol% ethylene and from 0 to 40 mol% of a C5 to C12 olefin, and 0 to 10 mol% of a diene where the polymer has:
  - a) a Dot T-Peel of 1 Newton or more; and
  - b) an Mw of 100, 00 or less; and
  - c) a Mz/Mn of 2-100; and
  - an Mw of 100 00 or less and a branching index of 0.5 or less, or an Mw of 75,000 or less and a branching index of 0.6 or less, or an Mw of 50,000 or less and a branching index of 0.7 or less, or an Mw of 30,000 or less and a branching index of 0.98 or less; and
  - d) a peak melting point between 60 and 190°C, and
  - e) a viscosity of 8 00 mPa•sec or less at 190°C; and
  - f) a heat of fusion of 70 J/g or less; and
  - g) a Shore A Hard ess (as measured by ASTM 2240) of 70 or less; and
  - h) A Shear Adhes in Fail Temperature 40 to 150°C; and
  - i) a set time of 5 s conds or less; and
  - j) an Mw/Mn of 3 to 75; and
  - k) an Mz of 20,000 o 500,000; and
  - 1) a melt index of 00 dg/min or less.
- 66. (original) The composition of claim 1 wherein the composition has a branching index (g') of 0.90 or less measured at the Mz of the polymer.
- 67. (original) The composition of claim 1 wherein the composition has a branching index (g') of 0.85 or less measured at the Mz of the polymer.

- 68. (original) The composition of claim 1 wherein the composition has a branching index (g') of 0.80 or less measured at the Mz of the polymer.
- 69. (original) The composition of claim 1 wherein the composition has a branching index (g') of 0.75 or less measured at the Mz of the polymer.
- 70. (original) The composition of claim 1 wherein the composition has a branching index (g') of 0.70 or less measured at the Mz of the polymer.
- 71. (original) The composition of claim 1 wherein the composition has a branching index (g') of 0.65 or less measured at the Mz of the polymer.
- 72. (original) The composition of claim 1 wherein the composition has a branching index (g') of 0.60 or less measured at the Mz of the polymer.
- 73. (original) The composition of claim 1 wherein the composition has a branching index (g') of 0.55 or less measured at the Mz of the polymer.
- 74. (original) The composition of claim 1 wherein the composition has a branching index (g') of 0.50 or less meanined at the Mz of the polymer.
- 75. (withdrawn) A continuous process to prepare an adhesive comprising:
  - 1) combining more mer, solvent, catalyst and activator in a reactor system,
  - 2) withdrawing polymer solution from the reactor system,
  - 3) removing at least 10% solvent from the polymer solution,
  - 4) quenching the rection,
  - 5) devolatilizing the polymer solution to form molten polymer,
  - 6) combining the riplten polymer and one or more additives in a static mixer,
  - 7) removing the power combination from the static mixer, and
  - 8) pelletizing or dramming the polymer combination.
- 76. (withdrawn) A continuous process to produce a branched olefin polymer comprising:

- selecting a first catalyst component capable of producing a polymer having an Mw of 80,000 or less and a crystallinity of 15% or less under selected polymerization conditions;
- 2) selecting a se ond catalyst component capable of producing polymer having an Mw of 80,000 or less and a crystallinity of 50% or more at the selected polymerization conditions;
- 3) contacting the catalyst components in the presence of one or more activators with propylene and one or more C4 to C20 olefins, and, optionally one or more C4 to C20 diolefins;
- 4) at a temperature of greater than 105°C;
- 5) at a residence time of 90 minutes or less:
- 6) wherein the rate of the first catalyst to the second catalyst is from 1:1 to 20:1;
- 7) wherein the activity of the catalyst components is at least 100 kilograms of polymer per grum of the catalyst compounds; and wherein at least 80% of the olefins are concerted to polymer.
- 77. (withdrawn) The process of claim 76 wherein:
- a) the olefins comprise propplene and one or more of butene, pentene, hexene, heptene, octene nonene, decene, dodecene; and
  - b) the temperature is greater than 110°C; and
  - c) the residence time is 120 minutes or less; and
  - d) the ratio of the rest catalyst to the second catalyst is from 1:1 to 1:10.
- 78. (withdrawn) The process of claim 76 wherein the diolefin is selected from the group consisting of 1,6-her diene, 1,7-octadiene, 1,8-nonadiene, 1,9-decadiene, 1,10undecadiene, 1,11 dodecadiene, 1,12-tridecadiene, 1,13-tetradecadiene, vie Inorbornene, cyclopentadiene, norbornadiene, ethylidene norbornene, divinylbenzene, dicyc pentadiene, polybutadienes having an Mw less than 1000 butadiene, entadiene, hexadiene, pentadecadiene, hexadecadiene. heptadecadiene, octa ecadiene. nonadecadiene. icosadiene, heneicosadiene, docosadiene. tricosa dene, tetracosadiene, pentacosadiene, hexacosadiene. heptacosadiene, octac sadiene, nonacosadiene, triacontadiene, cyclopentadiene,

vinylnorbornene, porbornadiene, ethylidene norbornene, divinylbenzene, dicyclopentadiene, or combinations thereof.

- 79. (withdrawn) The process of claim 76 wherein the olefin comprises propylene and one or more of butene, pintene, hexene, heptene, octene, nonene, decene, dodecene, 4-methyl-pentene-1, 3-nethyl pentene-1, and 3,5,5-trimethyl-hexene-1.
- 80. (withdrawn) A continuous process to make an adhesive comprising
  - selecting a firs catalyst component capable of producing a polymer having an Mw of 100,000 or less and a crystallinity of 20% or less under selected polymerization conditions;
  - 2) selecting a second catalyst component capable of producing polymer having an Mw of 100 00 or less and a crystallinity of 40% or more at the selected polymerization conditions;
  - 3) contacting, in a solvent and in a reaction zone under the selected polymerization conditions, the catalyst components in the presence of one or more activators with one or more C3 to C40 olefins, and, optionally one or more diolefins;
  - 4) at a temperature of greater than 100°C;
  - 5) at a residence time of 120 minutes or less;
  - 6) wherein the rate of the first catalyst to the second catalyst is from 1:1 to 50:1;
  - wherein the activity of the catalyst components is at least 50 kilograms of polymer per gran of the catalyst compounds; and wherein at least 80% of the olefins are converted to polymer;
  - 8) withdrawing powmer solution from the reaction zone;
  - 9) removing at lea 10% solvent from the polymer solution;
  - 10) quenching the reaction;
  - 11) devolatilizing the polymer solution to form molten polymer;
  - 12) combining the replicant polymer and one or more additives in a static mixer;
  - 13) removing the polymer combination from the static mixer; and
  - 14) pelletizing or drimming the polymer combination.

- 81. (original) A polymer comprising one or more C3 to C40 olefins, optionally one or more diolefins, and less than 1 mole % of ethylene where the polymers has:
  - a) a Dot T-Peel of 1 Newton or more; and
  - b) a branching index (g') of 0.95 or less measured at the Mz of the polymer; and
  - c) an Mw of 100,000 or less; and

wherein the polymer has at least 2 mol% (CH<sub>2</sub>)<sub>2</sub> units.

- 82. (original) The polymer of claim 81 wherein the polymer has at least 4 mol% (CH<sub>2</sub>)<sub>2</sub> units.
- 83. (original) The polymer of claim 81 wherein the polymer has at least 6 mol% (CH<sub>2</sub>)<sub>2</sub> units.
- 84. (original) The polymer of claim 81 wherein the polymer has at least 8 mol% (CH<sub>2</sub>)<sub>2</sub> units.
- 85. (original) The polymer of claim 81 wherein the polymer has at least 10 mol% (CH<sub>2</sub>)<sub>2</sub> units.
- 86. (original) The polymer of claim 81 wherein the polymer has at least 15 mol% (CH<sub>2</sub>)<sub>2</sub> units.
- 87. (original) The polymer of claim 81 wherein the polymer has at least 20 mol% (CH<sub>2</sub>)<sub>2</sub> units.
- 88. (original) A polymer comprising one or more C3 to C40 olefins, optionally one or more diolefins, and having between 1 and mole % of ethylene where the polymers has:
  - a) a Dot T-Pecl of Newton or more; and
  - b) a branching index (g') of 0.95 or less measured at the Mz of the polymer; and
  - an Mw of 100,000 or less; and wherein the polymer has at least 2 + X mol% (CH<sub>2</sub>)<sub>2</sub> units, where X is the mole % ethylene.

- 89. (original) The polymer of claim 88 wherein the polymer has at least 4 + X mol% (CH<sub>2</sub>)<sub>2</sub> units.
- 90. (original) The polymer of claim 88 wherein the polymer has at least 6 + X mol% (CH<sub>2</sub>)<sub>2</sub> units.
- 91. (original) The polymer of claim 88 wherein the polymer has at least 8 + X mol% (CH<sub>2</sub>)<sub>2</sub> units.
- 92. (original) The polymer of claim 88 wherein the polymer has at least 10 + X mol% (CH<sub>2</sub>)<sub>2</sub> units.
- 93. (original) The polymer of claim 88 wherein the polymer has at least 15 + X mol% (CH<sub>2</sub>)<sub>2</sub> units.
- 94. (original) The polymer of claim 88 wherein the polymer has at least 20 + X mol% (CH<sub>2</sub>)<sub>2</sub> units.
- 95. (original) A polymer comprising one or more C3 to C40 olefins, optionally one or more diolefins, and less than 50 mole % of ethylene where the polymers has:
  - a) a Dot T-Peel of Newton or more; and
  - b) a branching index (g') of 0.95 or less measured at the Mz of the polymer; and
  - c) an Mw of 100,000 or less.
- (original) The composition of claim 1 further comprising one or hydrocarbon resins 96. selected from the group consisting of aliphatic hydrocarbon resins, aromatic modified aliphatic hydrocarbon resins, hydrogenated polycyclopentadiene polycyclopentadiene resins, gum rosins, gum rosin esters, wood rosins, wood rosin esters, tall oil rosins tall oil rosin esters, polyterpenes, aromatic modified polyterpenes. terpene phenolics, aromatic modified hydrogenated polycyclopentadiene regins, hydrogenated aliphatic resin, hydrogenated aliphatic

aromatic resins, hydrogenated terpenes and modified terpenes, and hydrogenated rosin esters.

- 97. (original) The composition of claim 1 further comprising hydrocarbon resin present at 1 weight % to about 80 weight %.
- 98. (original) The composition of claim 1 further comprising hydrocarbon resin present at 2 weight % to about 40 weight %.
- 99. (original) The composition of claim 1 further comprising hydrocarbon resin present at 3 weight % to 30 weight %.
- 100. (original) The composition of claim 1 further comprising hydrocarbon resin present at 1 weight % to about 80 weight % selected from the group consisting of:

  C5/C6 terpene resins styrene terpenes, alpha-methyl styrene terpene resins, C9 terpene resins, aromatic modified dicyclopentadiene based resins, resins obtained from the cationic polymerization of compositions containing one or more of the following monomers:

  C5 diolefins; C5 oleffus; C6 olefins, C9 vinylaromatics; cyclics; and or terpenes; resins obtained by the thermal polymerization of dicyclopentadiene, and/or the thermal polymerization of dimers or oligomers of cyclopentadiene and /or methylcyclopentadiene optionally with vinylaromatics.
- 101. (original) A composition comprising the polymer of claim 1 and having less than 5% hydrocarbon resin.
- 102. (original) A composition comprising the polymer of claim 1 and having less than 3% hydrocarbon resin.
- 103. (original) A composition comprising the polymer of claim 1 and having less than 1% hydrocarbon resin.

- 104. (original) A polymer comprising one or more C3 to C40 olefins where the polymers has:
  - a) a Dot T-Pcel between 1 and 10,000 Newtons; and
  - b) a branching index (g') of 0.95 or less measured at the Mz of the polymer; and
  - c) an Mw of 100,000 or less.
- 105. (original) The polymer of claim 104 wherein the polymer has a Dot T-Peel of between 3 and 4000 Newtons.
- 106. (original) The polymer of claim 104 wherein the polymer has a Dot T-Peel of between 5 and 3000 Newtons.
- 107. (original) The polymer of claim 104 wherein the polymer has a Dot T-Peel of between 10 and 2000 Newtons.
- 108. (withdrawn) The process of claim 37 wherein the second catalyst component comprises one or more of: dimethylsiladiyl(2-methyl, 4-[3',5'-di-tbutylphenyl]indenyl)2zirconium dichloride; dimethylsiladiyl(2-ethyl 4-[3',5'-di-tbutylphenyl]indenyl)2zirconium dichloride; dimethylsiladiyl(2-n-prepyl, 4-[3',5'-di-tbutylphenyl]indenyl)2zirconium dichloride; dimethylsiladiyl(2-iso-hopyl, 4-[3',5'-di-tbutylphenyl]indenyl)zirconium dichloride; dimethylsiladiyl(2-n-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)2zirconium dichloride; dimethylsiladiyl(2-iso-httyl, 4-[3',5'-di-tbutylphenyl]indenyl)2zirconium dichloride; dimethylsiladiyl(2-sec-hutyl, 4-[3',5'-di-tbutylphenyl]indenyl)2zirconium dichloride; dimethylsiladiyl(2-tert-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)2zirconium dichloride; dimethylsiladiyl(2-methyl, 4-[3',5'-di-tbutylphenyl]indenyl)2hafnium dichloride; dimethylsiladiyl(2-ethyl 4-[3',5'-di-tbutylphenyl]indenyl)2hafnium dichloride; dimethylsiladiyl(2-n-prebyl, 4-[3',5'-di-tbutylphenyl]indenyl) 2hafnium dimethylsiladiyl(2-iso-mopyl, 4-[3',5'-di-tbutylphenyl]indenyl) 2hafnium dichloride; dimethylsiladiyl(2-buty 4-[3',5'-di-tbutylphenyl]indenyl) 2hafnium dichloride; 9-silafluorendiyl(2-methyl, 4-[3',5'-di-tbutylphenyl]indenyl)2zirconium dichloride; 9-silafluorendiyl(2-ethy 4-[3',5'-di-tbutylphenyl]indenyl)2zirconium dichloride; 9-silafluorendiyl(2-n-prepyl, 4-[3',5'-di-tbutylphenyl]indenyl)zirconium dichloride;

9-silafluorendiyl(2-is propyl, 4-[3',5'-di-tbutylphenyl]indenyl)2zirconium dichloride; 9-silafluorendiyl(2-n-hutyl, 4-[3',5'-di-tbutylphenyl]indenyl)zirconium dichloride; 9-silafluorendiyl(2-is butyl, 4-[3',5'-di-tbutylphenyl]indenyl)2zirconium dichloride; 9-silafluorendiyl(2-sex-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)2zirconium dichloride; 9-silafluorendiyl(2-ten-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)<sub>2</sub>zirconium dichloride; 9-silafluorendiyl(2-mthyl, 4-[3',5'-di-tbutylphenyl]indenyl)<sub>2</sub>hafnium dichloride; 9-silafluorendiyl(2-eth), 4-[3',5'-di-tbutylphenyl]indenyl) 2hafnium dichloride; 9-silafluorendiyl(2-n-hopyl, 4-[3',5'-di-tbutylphenyl]indenyl)<sub>2</sub>hafnium dichloride; 9-silafluorendiyl(2-is propyl, 4-[3',5'-di-tbutylphenyl]indenyl)2hafnium dichloride; 9-silafluorendiyl(2-n-hutyl, 4-[3',5'-di-tbutylphenyl]indenyl)2hafnium dichloride; 9-silafluorendiyl(2-isd butyl, 4-[3',5'-di-tbutylphenyl]indenyl)<sub>2</sub>hafnium dichloride; 9-silafluorendiyl(2-set butyl, 4-[3',5'-di-tbutylphenyl]indenyl)2hafnium dichloride; 9-silafluorendiyl(2-teth-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)2hafnium dichloride; dimethylsiladiyl(2-methyl, 4-[3',5'-di-tbutylphenyl]indenyl)2zirconium dimethyl; dimethylsiladiyl(2-ethyl, 4-[3',5'-di-tbutylphenyl]indenyl)2zirconium dimethyl; dimethylsiladiyl(2-n-hopyl, 4-[3',5'-di-tbutylphenyl]indenyl)2zirconium dimethyl; dimethylsiladiyl(2-isd propyl, 4-[3',5'-di-tbutylphenyl]indenyl)2zirconium dimethyl; dimethylsiladiyl(2-n-tatyl, 4-[3',5'-di-tbutylphenyl]indenyl)2zirconium dimethyl; dimethylsiladiyl(2-iso butyl, 4-[3',5'-di-tbutylphenyl]indenyl)2zirconium dimethyl; dimethylsiladiyl(2-sed butyl, 4-[3',5'-di-tbutylphenyl]indenyl)zirconium dimethyl: dimethylsiladiyl(2-tertbutyl, 4-[3',5'-di-tbutylphenyl]indenyl)2zirconium dimethyl; dimethylsiladiyl(2-methyl, 4-[3',5'-di-tbutylphenyl]indenyl)2hafnium dimethyl; dimethylsiladiyl(2-ethel, 4-[3',5'-di-tbutylphenyl]indenyl)2hafnium dimethyl; dimethylsiladiyl(2-n-mopyl, 4-[3',5'-di-tbutylphenyl]indenyl)2hafnium dimethyl dimethylsiladiyl(2-iso propyl, 4-[3',5'-di-tbutylphenyl]indenyl)2hafnium dimethyl; dimethylsiladiyl(2-n-thtyl, 4-[3',5'-di-tbutylphenyl]indenyl) 2hafnium dimethyl; dimethylsiladiyl(2-iso butyl, 4-[3',5'-di-tbutylphenyl]indenyl) hafnium dimethyl: dimethylsiladiyl(2-sectoutyl, 4-[3',5'-di-tbutylphenyl]indenyl) 2hafnium dimethyl; dimethylsiladiyl(2-ter butyl, 4-[3',5'-di-tbutylphenyl]indenyl) 2hafnium dimethyl; 9-silafluorendiyl(2-mahyl, 4-[3',5'-di-tbutylphenyl]indenyl)zirconium dimethyl; 9-silafluorendiyl(2-ethal, 4-[3',5'-di-tbutylphenyl]indenyl)2zirconium dimethyl; 9-silafluorendiyl(2-n-dopyl, 4-[3',5'-di-tbutylphenyl]indenyl)2zirconium dimethyl; 9-silafluorendiyl(2-iso propyl, 4-[3',5'-di-tbutylphenyl]indenyl)2zirconium dimethyl;

9-silafluorendiyl(2-n-httyl, 4-[3',5'-di-tbutylphenyl]indenyl)2zirconium dimethyl; 9-silafluorendiyl(2-isd butyl, 4-[3',5'-di-tbutylphenyl]indenyl)2zirconium dimethyl; 9-silafluorendiyl(2-se butyl, 4-[3',5'-di-tbutylphenyl]indenyl)zirconium dimethyl; 9-silafluorendiyl(2-ter butyl, 4-[3',5'-di-tbutylphenyl]indenyl)2zirconium dimethyl; 9-silafluorendiyl(2-mahyl, 4-[3',5'-di-tbutylphenyl]indenyl) 2hafnium dimethyl; 9-silafluorendiyl(2-ett. 1, 4-[3',5'-di-tbutylphenyl]indenyl) 2hafnium dimethyl; 9-silafluorendiyl(2-n-dopyl, 4-[3',5'-di-tbutylphenyl]indenyl) 2hafnium dimethyl; 9-silafluorendiyl(2-iso propyl, 4-[3',5'-di-tbutylphenyl]indenyl)2hafnium dimethyl; 9-silafluorendiyl(2-n-lityl, 4-[3',5'-di-tbutylphenyl]indenyl)2hafnium dimethyl; 9-silafluorendiyl(2-iso butyl, 4-[3',5'-di-tbutylphenyl]indenyl)2hafnium dimethyl; 9-silafluorendiyl(2-sed butyl, 4-[3',5'-di-tbutylphenyl]indenyl) hafnium dimethyl; 9-silafluorendiyl(2-ter butyl, 4-[3',5'-di-tbutylphenyl]indenyl)2hafnium dimethyl; dimethylsiladiyl(2-methyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)2zirconium dichloride; dimethylsiladiyl(2-ethy 4-[3',5'-bis-trifluoromethylphenyl]indenyl)zzirconium dichloride; dimethylsiladiyl(2-n-pupyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)zirconium dichloride; dimethylsiladiyl(2-iso-tropyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)zirconium dichloride; dimethylsiladiyl(2-n-billyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)2zirconium dichloride; dimethylsiladiyl(2-iso-hutyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)2zirconium dichloride: dimethylsiladiyl(2-sec dutyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)zirconium dichloride; dimethylsiladiyl(2-tert utyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)zirconium dichloride; dimethylsiladiyl(2-metal), 4-[3',5'-bis-trifluoromethylphenyl]indenyl) 2hafnium dichloride; dimethylsiladiyl(2-ethy 4-[3',5'-bis-trifluoromethylphenyl]indenyl) 2hafnium dichloride;

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dimethylsiladiyl(2-n-	, 4-[3',5'-bis-	trifluoromethylphenyl]indenyl)2hafnium
dichloride;		
dimethylsiladiyl(2-isc propy	vl, 4-[3',5'-bis-	trifluoromethylphenyl]indenyl)2hafnium
dichloride;		
dimethylsiladiyl(2-n-tytyl,	4-[3',5'-bis-	trifluoromethylphenyl]indenyl)2hafnium
dichloride;		
dimethylsiladiyl(2-isc butyl,	4-[3',5'-bis-	trifluoromethylphenyl]indenyl)2hafnium
dichloride;		
dimethylsiladiyl(2-sed butyl	, 4-[3',5'-bis-	trifluoromethylphenyl]indenyl)2hafnium
dichloride;		
dimethylsiladiyl(2-ter butyl	, 4-[3',5'-bis-	trifluoromethylphenyl]indenyl)2hafnium
dichloride;		
9-silafluorendiyl(2-mc hyl,	4-[3',5'-bis-t	rifluoromethylphenyl]indenyl)2zirconium
dichloride;		
dimethylsiladiyl(2-eth i,	4-[3',5'-bis-	trifluoromethylphenyl]indenyl)2hafnium
dichloride;		
9-silafluorendiyl(2-n-popyl,	4-[3',5'-bis- t	rifluoromethylphenyl]indenyl)2zirconium
dichloride;		

9-silafluorendiyl(2-iso bropyl, 4-[3',5'-bis- trifluoromethylphenyl]indenyl)2zirconium dichloride;

9-silafluorendiyl(2-n-latyl, 4-[3',5'-bistrifluoromethylphenyl]indenyl)2zirconium dichloride;

9-silafluorendiyl(2-iso utyl, 4-[3',5'-bis- trifluoromethylphenyl]indenyl)2zirconium dichloride;

9-silafluorendiyl(2-sectutyl, 4-[3',5'-bis- trifluoromethylphenyl]indenyl)2zirconium dichloride;

9-silafluorendiyl(2-tert outyl, 4-[3',5'-bis- trifluoromethylphenyl]indenyl)2zirconium dichloride;

9-silafluorendiyl(2-met 4-[3',5'-bis-trifluoromethylphenyl]indenyl) 2hafnium dichloride;

9-silafluorendiyl(2-eth 4-[3',5'-bis-trifluoromethylphenyl]indenyl)2hafnium dichloride;

9-silafluorendiyl(2-n-p pyl, 4-[3',5'-bis- trifluoromethylphenyl]indenyl)2

hafnium dichloride;

9-silafluorendiyl(2-isapropyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)2

hafnium dichloride;

9-silafluorendiyl(2-n-attyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)2hafnium

dichloride;

9-silafluorendiyl(2-isc butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)2hafnium

dichloride;

9-silafluorendiyl(2-see butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)2hafnium

dichloride;

9-silafluorendiyl(2-ter butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)<sub>2</sub>hafnium

dichloride;

dimethylsiladiyl(2-metyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)zirconium

dimethyl;

dimethylsiladiyl(2-eth), 4-[3',5'-bis-trifluoromethylphenyl]indenyl)2zirconium

dimethyl;

dimethylsiladiyl(2-n-pppyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)2zirconium

dimethyl;

dimethylsiladiyl(2-iso-ropyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)2zirconium

dimethyl;

dimethylsiladiyl(2-n-byl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)zirconium

dimethyl;

dimethylsiladiyl(2-iso-utyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)2zirconium

dimethyl;

dimethylsiladiyl(2-sectutyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)zirconium

dimethyl;

dimethylsiladiyl(2-tert utyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)2zirconium

dimethyl;

dimethylsiladiyl(2-methyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl) 2hafnium

dimethyl;

dimethylsiladiyl(2-ethy 4-[3',5'-bis-trifluoromethylphenyl]indenyl) 2hafnium

dimethyl;

dimethylsiladiyl(2-n-propyl, 4-[3',5'-bis- trifluoromethylphenyl]indenyl)2hafnium

dimethyl;

dimethylsiladiyl(2-isd bropyl, 4-[3',5'-bistrifluoromethylphenyl]indenyl)2hafnium dimethyl; dimethylsiladiyl(2-ntyl, 4-[3',5'-bistrifluoromethylphenyl]indenyl)2hafnium dimethyl; dimethylsiladiyl(2-isd butyl, 4-[3',5'-bistrifluoromethylphenyl]indenyl)2hafnium dimethyl; dimethylsiladiyl(2-securityl, 4-[3',5'-bistrifluoromethylphenyl]indenyl)2hafnium dimethyl; dimethylsiladiyl(2-ter butyl, 4-[3',5'-bistrifluoromethylphenyl]indenyl)2hafnium dimethyl; 9-silafluorendiyl(2-memyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)2zirconium dimethyl; dimethylsiladiyl(2-eth 4-[3',5'-bistrifluoromethylphenyl]indenyl)2hafnium dimethyl; 9-silafluorendiyl(2-n-ppyl, 4-[3',5'-bis- trifluoromethylphenyl]indenyl)2zirconium dimethyl; 9-silafluorendiyl(2-iso ropyl, 4-[3',5'-bis- trifluoromethylphenyl]indenyl)2zirconium dimethyl; 9-silafluorendiyl(2-n-tatyl, 4-[3',5'-bistrifluoromethylphenyl]indenyl)2zirconium dimethyl; 9-silafluorendiyl(2-iso utyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)2zirconium dimethyl; 9-silafluorendiyl(2-secutyl, 4-[3',5'-bis- trifluoromethylphenyl]indenyl)zirconium dimethyl; 9-silafluorendiyl(2-tert utyl, 4-[3',5'-bis- trifluoromethylphenyl]indenyl)zirconium dimethyl; 9-silafluorendiyl(2-me 4-[3',5'-bis-trifluoromethylphenyl]indenyl) <sub>2</sub>hafnium dimethyl; 9-silafluorendiyl(2-ethi 4-[3',5'-bis-trifluoromethylphenyl]indenyl)2hafnium dimethyl; 9-silafluorendiyl(2-n-p pyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)2 hafnium dimethyl;

9-silafluorendiyl(2-iso-ropyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)2

hafnium dimethyl;				
9-silafluorendiyl(2-n-	utyl,	4-[3',5'-bis	s-trifluoromethylphenyl]inder	nyl)₂hafnium
dimethyl;				• •-
9-silafluorendiyl(2-ise	butyl,	4-[3',5'-bis	s-trifluoromethylphenyl]inder	yl) <sub>2</sub> hafnium
dimethyl;				• /-
9-silafluorendiyl(2-se	butyl,	4-[3',5'-bis	s-trifluoromethylphenyl]inder	ıyl) <sub>2</sub> hafnium
dimethyl;				, ,2
9-silafluorendiyl(2-ter	butyl,	4-[3',5'-bis	-trifluoromethylphenyl]inden	vl)>hafnium
dimethyl;			• • • • • • • • • • • • • • • • • • • •	, , ,
dimethylsiladiyl(2-eth	1, 4-[3',5	; -di-iso-propy	lphenyl]indenyl)2zirconium	dichloride:
dimethylsiladiyl(2-n-p			'-di-iso-propylphenyl]indenyl	
dichloride				<i>-</i> -
dimethylsiladiyl(2-iso	propyl,	4-[3',5	'-di-iso-propylphenyl]indenyl	) <sub>2</sub> zirconium
dichloride;		:		, <u> </u>
dimethylsiladiyl(2-n-b	tyl,	4-[3',5	'-di-iso-propylphenyl]indenyl	) <sub>2</sub> zirconium
dichloride;				, -
dimethylsiladiyl(2-iso-	utyl,	4-[3',5	-di-iso-propylphenyl]indenyl	) <sub>2</sub> zirconium
dichloride;				
dimethylsiladiyl(2-sec	outyl,	4-[3',5'	-di-iso-propylphenyl]indenyl	) <sub>2</sub> zirconium
dichloride;	;			
dimethylsiladiyl(2-tert	outyl,	4-[3',5'	-di-iso-propylphenyl]indenyl	) <sub>2</sub> zirconium
dichloride;				
dimethylsiladiyl(2-eth	, 4-[3',5	-di-iso-propy	phenyl]indenyl) 2hafnium dio	hloride;
dimethylsiladiyl(2-n-p		•	so-propylphenyl]indenyl)	2hafnium
dichloride;		1		
dimethylsiladiyl(2-iso-	ropyl,	4-[3',5'-di-	iso-propylphenyl]indenyl)	2hafnium
dichloride;				
dimethylsiladiyl(2-n-b	yl, 4-[3'	,5'-di- iso-pro	pylphenyl]indenyl) 2hafnium	dichloride;
			iso-propylphenyl]indenyl)	<sub>2</sub> hafnium
dichloride;				
dimethylsiladiyl(2-sec-	utyl,	4-[3',5'-di-	iso-propylphenyl]indenyl)	<sub>2</sub> hafnium
dichloride;				

	YY.	:		
dimethylsiladiyl(2-tei	butyl,	4-[3',5'-di-	iso-propylphenyl]indenyl)	2hafnium
dichloride;				_
9-silafluorendiyl(2-etl	yl, 4-[3',	5'-di-iso-propy	phenyl]indenyl)2zirconium di	ichloride;
9-silafluorendiyl(2-n-		:	di-iso-propylphenyl]indenyl)	
dichloride;				
9-silafluorendiyl(2-iso	propyl,	4-[3',5'-	di-iso-propylphenyl]indenyl);	zirconium
dichloride;		·	- 101 03	
9-silafluorendiyl(2-n-l	utyl,	4-[3',5'-	di-iso-propylphenyl]indenyl) <sub>2</sub>	zirconium
dichloride;				
9-silafluorendiyl(2-isc	butyl,	4-[3',5'-	di-iso-propylphenyl]indenyl) <sub>2</sub>	zirconium
dichloride;		:		
9-silafluorendiyl(2-sed	butyl,	4-[3',5'-	di-iso-propylphenyl]indenyl) <sub>2</sub>	zirconium
dichloride;				
9-silafluorendiyl(2-ter	butyl,	4-[3',5'-6	di-iso-propylphenyl]indenyl)2	zirconium
dichloride;		:		
9-silafluorendiyl(2-eth	1, 4-[3',5	: '-di-iso-propyl <sub>]</sub>	ohenyl]indenyl) 2hafnium dich	aloride:
9-silafluorendiyl(2-n-p		:	'-di-iso-propylphenyl]indenyl	
dichloride;		İ		
9-silafluorendiyl(2-iso	propyl,	4-[3',5	-di-iso-propylphenyl]indenyl	) <sub>2</sub> hafnium
dichloride;		•		
9-silafluorendiyl(2-n-b	tyl, 4-[3	,5'-di-iso-prop	ylphenyl]indenyl)2hafnium di	chloride;
9-silafluorendiyl(2-iso		•	-di-iso-propylphenyl]indenyl	
dichloride;				
9-silafluorendiyl(2-sec	outyl,	4-[3',5'	-di-iso-propylphenyl]indenyl)	₂hafnium
dichloride;				
9-silafluorendiyl(2-tert	outyl,	4-[3',5'	-di-iso-propylphenyl]indenyl)	2hafnium
dichloride;		· i		
dimethylsiladiyl(2-ethy	, 4-[3', <b>5</b> '	di-iso-propylp	henyl]indenyl)2zirconium dim	ethyl;
dimethylsiladiyl(2-n-pr	pyl, 4- <b>[</b> 3	,5'-di-iso-prop	ylphenyl]indenyl)2zirconium	dimethyl
dimethylsiladiyl(2-iso-		t .	i-iso-propylphenyl]indenyl) <sub>2</sub> z	
dimethyl;		, ;		
dimethylsiladiyl(2-n-bi	yl, 4-[3',	5'-di-iso-propy	phenyl]indenyl)2zirconium d	imethyl;
dimethylsiladiyl(2-isob	tyl, 4-[3'	,5'-di-iso-propy	lphenyl]indenyl)2zirconium c	limethyl;
		•		

dimethylsiladiyl(2-se-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)2zirconium dimethyl; dimethylsiladiyl(2-ter-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)2zirconium dimethyl: dimethylsiladiyl(2-ctl-1, 4-[3",5'-di-iso-propylphenyl]indenyl) 2hafnium dimethyl; dimethylsiladiyl(2-n-popyl, 4-[3',5'-di-iso-propylphenyl]indenyl) 2hafnium dimethyl; dimethylsiladiyl(2-isc propyl, 4-[3',5'-diiso-propylphenyl]indenyl) 2hafnium dimethyl; dimethylsiladiyl(2-n-latyl, 4-[3',5'-di-iso-propylphenyl]indenyl) hafnium dimethyl; dimethylsiladiyl(2-iso butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)2zirconium dimethyl; dimethylsiladiyl(2-secoutyl, 4-[3',5'-di-iso-propylphenyl]indenyl)2zirconium dimethyl; dimethylsiladiyl(2-ter butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)2zirconium dimethyl; 9-silafluorendiyl(2-ethal, 4-[3',5'-di-iso-propylphenyl|indenyl)2zirconium dimethyl; 9-silafluorendiyl(2-n-popyl, 4-[3',5'-di-iso-propylphenyl]indenyl)2zirconium dimethyl; 9-silafluorendiyl(2-iso propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)2zirconium dimethyl; 9-silafluorendiyl(2-n-b tyl, 4-[3',5'-di-iso-propylphenyl)indenyl)zirconium dimethyl; 9-silafluorendiyl(2-iso putyl, 4-[3',5'-di-iso-propylphenyl]indenyl)2zirconium dimethyl; 9-silafluorendiyl(2-secoutyl, 4-[3',5'-di-iso-propylphenyl]indenyl)zirconium dimethyl; 9-silafluorendiyl(2-tert butyl. 4-[3',5'-di-iso-propylphenyl]indenyl)2zirconium dimethyl; 9-silafluorendiyl(2-eth, 4-[3',5'-di-iso-propylphenyl]indenyl) hafnium dimethyl; 9-silafluorendiyl(2-n-p-ppyl, 4-[3',5'-di-iso-propylphenyl]indenyl)2hafnium dimethyl; 9-silafluorendiyl(2-iso-ropyl, 4-[3',5'-di-iso-propylphenyl]indenyl)2hafnium dimethyl; 9-silafluorendiyl(2-n-b yl, 4-[3',5'-di-iso-propylphenyl]indenyl)2hafnium dimethyl; 9-silafluorendiyl(2-iso-tutyl, 4-[3',5'-di-iso-propylphenyl]indenyl)2hafnium dimethyl;

9-silafluorendiyl(2-se-butyl, #+[3',5'-di-iso-propylphenyl]indenyl)2hafnium dimethyl; 9-silafluorendiyl(2-te-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)2hafnium dimethyl; dimethylsiladiyl(2-menyl, 4-\(\beta\);5'-di-phenylphenyllindenyl)zirconium dichloride; dimethylsiladiyl(2-ethel, 4-[3',5'-di-phenylphenyl]indenyl)2zirconium dichloride; dimethylsiladiyl(2-n-mopyl, 4 [3',5'-di-phenylphenyl]indenyl)zirconium dichloride; dimethylsiladiyl(2-iso propyl, 4-[3',5'-di-phenylphenyl]indenyl)zirconium dichloride: dimethylsiladiyl(2-n-batyl, 4-[3],5'-di-phenylphenyl]indenyl)2zirconium dichloride; dimethylsiladiyl(2-iso butyl, 4 [3',5'-di-phenylphenyl]indenyl)zirconium dichloride: dimethylsiladiyl(2-sectoutyl, 4-[3',5'-di-phenylphenyl]indenyl)zirconium dichloride; dimethylsiladiyl(2-ter butyl, 4-[3',5'-di-phenylphenyl]indenyl)zirconium dichloride; dimethylsiladiyl(2-metyl, 4-[3",5'-di-phenylphenyl]indenyl)2hafnium dichloride; dimethylsiladiyl(2-eth, 4-[3',5'-di-phenylphenyl]indenyl)2hafnium dichloride; dimethylsiladiyl(2-n-p-ppyl, 4-[3',5'-di-phenylphenyl]indenyl)2hafnium dichloride; dimethylsiladiyl(2-iso ropyl, 4 [3',5'-di-phenylphenyl]indenyl) hafnium dichloride; dimethylsiladiyl(2-n-batyl, 4-[3]5'-di-phenylphenyl]indenyl)2hafnium dichloride; dimethylsiladiyl(2-iso-utyl, 44[3',5'-di-phenylphenyl]indenyl)2hafnium dichloride; dimethylsiladiyl(2-sec butyl, 4 3',5'-di-phenylphenyl]indenyl)2hafnium dichloride; dimethylsiladiyl(2-tert butyl, 4-[3',5'-di-phenylphenyl]indenyl)2hafnium dichloride; 9-silafluorendiyl(2-me yl, 4-[3',5'-di-phenylphenyl]indenyl)zirconium dichloride; 9-silafluorendiyl(2-eth, 4-[3',5]-di-phenylphenyl]indenyl)zirconium dichloride; 9-silafluorendiyl(2-n-pappyl, 4 [3',5'-di-phenylphenyl]indenyl)zirconium dichloride; 9-silafluorendiyl(2-isopropyl, 4-[3',5'-di-phenylphenyl]indenyl)2zirconium dichloride;

9-silafluorendiyl(2-n-b tyl, 4-[3],5'-di-phenylphenyl]indenyl)2zirconium dichloride;
9-silafluorendiyl(2-iso- utyl, 4-[3],5'-di-phenylphenyl]indenyl)2zirconium dichloride;
9-silafluorendiyl(2-sec outyl, 4-[3],5'-di-phenylphenyl]indenyl)2zirconium dichloride;
9-silafluorendiyl(2-tert outyl, 4-[3],5'-di-phenylphenyl]indenyl)2zirconium dichloride;
9-silafluorendiyl(2-met yl, 4-[3],5'-di-phenylphenyl]indenyl)2hafnium dichloride;
9-silafluorendiyl(2-eth; , 4-[3],5'-di-phenylphenyl]indenyl)2hafnium dichloride;
9-silafluorendiyl(2-n-pi-pyl, 4-[3],5'-di-phenylphenyl]indenyl)2hafnium dichloride;
9-silafluorendiyl(2-iso-ropyl, 4-[3],5'-di-phenylphenyl]indenyl)2hafnium dichloride;
9-silafluorendiyl(2-n-bi-yl, 4-[3],5'-di-phenylphenyl]indenyl)2hafnium dichloride;

9-silafluorendiyl(2-se butyl, 4-[3',5'-di-phenylphenyl]indenyl)2hafnium dichloride: 9-silafluorendiyl(2-tel-butyl, #4[3',5'-di-phenylphenyl]indenyl)2hafnium dichloride; dimethylsiladiyl(2-me hyl, 4-[3],5'-di-phenylphenyl]indenyl)2zirconium dimethyl; dimethylsiladiyl(2-eth-1, 4-[3'] di-phenylphenyl]indenyl)2zirconium dimethyl; dimethylsiladiyl(2-n-popyl, 4 3',5'-di-phenylphenyl)indenyl)zirconium dimethyl; dimethylsiladiyl(2-isopropyl, 4-[3',5'-di-phenylphenyl]indenyl)zirconium dimethyl; dimethylsiladiyl(2-n-tatyl, 4-[\$,5'-di-phenylphenyl]indenyl)zirconium dimethyl; dimethylsiladiyl(2-iso butyl, 4 [3',5'-di-phenylphenyl]indenyl)2zirconium dimethyl; dimethylsiladiyl(2-sec\_butyl, 4 [3',5'-di-phenylphenyl]indenyl)zirconium dimethyl; dimethylsiladiyl(2-ter butyl, 4 [3',5'-di-phenylphenyl]indenyl)2zirconium dimethyl; dimethylsiladiyl(2-me nyl, 4-[3,5'-di-phenylphenyl]indenyl) hafnium dimethyl; dimethylsiladiyl(2-eth 1, 4-[3',5-di-phenylphenyl]indenyl)2hafnium dimethyl; dimethylsiladiyl(2-n-propyl, 4473',5'-di-phenylphenyl]indenyl)2hafnium dimethyl; dimethylsiladiyl(2-iso-propyl, 44[3',5'-di-phenylphenyl]indenyl)2hafnium dimethyl; dimethylsiladiyl(2-n-batyl, 4-[3/5'-di-phenylphenyl]indenyl)2hafnium dimethyl; dimethylsiladiyl(2-iso-butyl, 4||\beta',5'-di-phenylphenyl]indenyl)2hafnium dimethyl; dimethylsiladiyl(2-sec butyl, 4 [3',5'-di-phenylphenyl]indenyl)2hafnium dimethyl; dimethylsiladiyl(2-tert butyl, 4 [3',5'-di-phenylphenyl]indenyl)2hafnium dimethyl; 9-silafluorendiyl(2-me nyl, 4-[3',5'-di-phenylphenyl]indenyl)zirconium dimethyl; 9-silafluorendiyl(2-eth., 4-[3',5]-di-phenylphenyl]indenyl)zirconium dimethyl; 9-silafluorendiyl(2-n-plopyl, 4-[B',5'-di-phenylphenyl]indenyl)<sub>2</sub>zirconium dimethyl; 9-silafluorendiyl(2-iso-propyl, #[3',5'-di-phenylphenyl]indenyl)zirconium dimethyl; 9-silafluorendiyl(2-n-batyl, 4-[3]5'-di-phenylphenyl]indenyl)zirconium dimethyl; 9-silafluorendiyl(2-iso-butyl, 4 [3',5'-di-phenylphenyl]indenyl)2zirconium dimethyl; 9-silafluorendiyl(2-sec butyl, 4 [3',5'-di-phenylphenyl]indenyl)zirconium dimethyl; 9-silafluorendiyl(2-tert butyl, 4 3',5'-di-phenylphenyl]indenyl)zirconium dimethyl; 9-silafluorendiyl(2-metyl, 4-[\$\frac{1}{2}5'-di-phenylphenyl]indenyl)2hafnium dimethyl; 9-silafluorendiyl(2-eth, 4-[3', 4'di-phenylphenyl]indenyl)2hafnium dichloride; 9-silafluorendiyl(2-n-pppyl, 4-13',5'-di-phenylphenyl]indenyl)2hafnium dimethyl; 9-silafluorendiyl(2-iso-ropyl, 4-[3',5'-di-phenylphenyl]indenyl)2hafnium dimethyl; 9-silafluorendiyl(2-n-b yl, 4-[1/5'-di-phenylphenyl]indenyl)2hafnium dimethyl; 9-silafluorendiyl(2-iso-utyl, 4-13',5'-di-phenylphenyl]indenyl)2hafnium dimethyl; 9-silafluorendiyl(2-sec-butyl, 4\(\frac{1}{4}\)',5'-di-phenylphenyl]indenyl)2hafnium dimethyl;

		15	1	
9-silafluorendiyl(2-te	-butyl,	4	[3',5'-di-phenylphenyl]indenyl)2hafnium dime	ethyl;
dimethylsiladiyl(2-m		1:	[3',5'-di-tbutylphenyl]indenyl)2 η <sup>4</sup> -1,4-diph	
butadiene;		1		
dimethylsiladiyl(2-eth	/l, 4	-	3',5'-di-tbutylphenyl]indenyl)2 η <sup>4</sup> -1,4-diph	enyl-1,3-
butadiene;				
dimethylsiladiyl(2-n-	ropyl,	4	-[3',5'-di-tbutylphenyl]indenyl)2 η <sup>4</sup> -1,4-diph	enyl-1,3-
butadiene;		1		
dimethylsiladiyl(2-iso	propyl,		4-[3',5'-di-tbutylphenyl]indenyl) <sub>2</sub> η <sup>4</sup> -1,4-diphe	enyl-1,3-
butadiene;				
dimethylsiladiyl(2-n-	ityl,	4	[3',5'-di-tbutylphenyl]indenyl) <sub>2</sub> η <sup>4</sup> -1,4-diphe	enyl-1,3-
butadiene;				
dimethylsiladiyl(2-iso	butyl,	4	-[3',5'-di-tbutylphenyl]indenyl)2 η <sup>4</sup> -1,4-dipho	enyl-1,3-
butadiene;				
dimethylsiladiyl(2-sec	butyl,	4	-[3',5'-di-tbutylphenyl]indenyl)2 η <sup>4</sup> -1,4-diphe	enyl-1,3-
butadiene;				
dimethylsiladiyl(2-ter	butyl,	4	-[3',5'-di-tbutylphenyl]indenyl) <sub>2</sub> η <sup>4</sup> -1,4-diphe	enyl-1,3-
butadiene;				
dimethylsiladiyl(2-eth	1, 4-[3'	5	-bis-trifluoromethylphenyl]indenyl) <sub>2</sub> $\eta^4$ -1,4-d	iphenyl-
1,3-butadiene;				
dimethylsiladiyl(2-n-r	opyl,		4-[3',5'-bis-trifluoromethylphenyl]indenyl)2	η4-1,4-
diphenyl-1,3-butadien				
dimethylsiladiyl(2-iso	propyl,		4-[3',5'-bis- trifluoromethylphenyl]indenyl) <sub>2</sub>	η4-1,4-
diphenyl-1,3-butadien	ŧ			
dimethylsiladiyl(2-n-b	ityl,	4	-[3',5'-bis-trifluoromethylphenyl]indenyl) <sub>2</sub>	$\eta^{4}$ -1,4-
diphenyl-1,3-butadien	4			
dimethylsiladiyl(2-iso	outyl,		4-[3',5'-bis-trifluoromethylphenyl]indenyl) <sub>2</sub>	$\eta^{4}$ -1,4-
diphenyl-1,3-butadien				
dimethylsiladiyl(2-sec	outyl,		4-[3',5'-bis-trifluoromethylphenyl]indenyl)2	$\eta^{4}$ -1,4-
diphenyl-1,3-butadien				
dimethylsiladiyl(2-tert	outyl,		4-[3',5'-bis-trifluoromethylphenyl]indenyl)2	$\eta^{4}$ -1,4-
diphenyl-1,3-butadien				
	_	11	1	

dimethylsiladiyl(2-ethyl, 4-[3'|5'-di-iso-propylphenyl]indenyl), n<sup>4</sup>-1,4-diphenyl-1,3butadiene: dimethylsiladiyl(2-n-propyl, 4-[3',5'-di-iso-propylphenyl)indenyl) 2 n<sup>4</sup>-1,4-diphenyl-1,3-butadiene; dimethylsiladiyl(2-iso propyl, 4-[3',5'-di-iso-propylphenyl]indenyl) n<sup>4</sup>-1,4-diphenyl-1,3-butadiene; dimethylsiladiyl(2-n-Lityl, 4-3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3-butadiene; dimethylsiladiyl(2-iso butyl, 4-[3',5'-di-iso-propylphenyl]indenyl) η<sup>4</sup>-1,4-diphenyl-1,3-butadiene; dimethylsiladiyl(2-sec butyl, 4 [3',5'-di-iso-propylphenyl]indenyl)2 n4-1,4-diphenyl-1,3-butadiene; dimethylsiladiyl(2-ter butyl, 4[3',5'-di-iso-propylphenyl]indenyl) 1,4-diphenyl-1,3-butadiene; dimethylsiladiyl(2-me nyl,  $4 [3',5'-di-phenylphenyl]indenyl)_2 \eta^4-1,4-diphenyl-1,3$ butadiene: 4-[3',5']-di-phenylphenyllindenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3dimethylsiladiyl(2-ethel, butadiene; dimethylsiladiyl(2-n-p opyl, 4-3',5'-di-phenylphenyl]indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3butadiene; dimethylsiladiyl(2-iso-propyl, #4[3',5'-di-phenylphenyl]indenyl)<sub>2</sub> n<sup>4</sup>-1,4-diphenyl-1,3butadiene; dimethylsiladiyl(2-n-batyl, 4 [[β',5'-di-phenylphenyl]indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3butadiene; dimethylsiladiyl(2-iso-butyl, 4-3',5'-di-phenylphenyl]indenyl), n<sup>4</sup>-1,4-diphenyl-1,3butadiene; dimethylsiladiyl(2-sec butyl, 4/3',5'-di-phenylphenyl]indenyl) 1,4-diphenyl-1,3butadiene; dimethylsiladiyl(2-tert butyl, 4 3',5'-di-phenylphenyl)indenyl) n<sup>4</sup>-1,4-diphenyl-1,3butadiene; 9-silafluorendiyl(2-metryl, 4/13',5'-di-tbutylphenyl]indenyl) n<sup>4</sup>-1,4-diphenyl-1,3butadiene;

9-silafluorendiyl(2-et yl,  $\{3',5'-\text{di-tbutylphenyl}\}$  indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3butadiene; 9-silafluorendiyl(2-n-ropyl, 4-[3',5'-di-tbutylphenyl]indenyl)2  $\eta^4$ -1,4-diphenyl-1,3butadiene; 9-silafluorendiyl(2-isd-propyl 4-[3',5'-di-tbutylphenyl]indenyl) η<sup>4</sup>-1,4-diphenyl-1,3butadiene; 9-silafluorendiyl(2-n-lutyl,  $[3',5'-di-tbutylphenyl]indenyl)_2$   $\eta^4-1,4-diphenyl-1,3$ butadiene: 9-silafluorendiyl(2-isd butyl, [4-[3',5'-di-tbutylphenyl]indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3butadiene; 9-silafluorendiyl(2-se butyl, 4-[3',5'-di-tbutylphenyl]indenyl)  $\eta^4$ -1,4-diphenyl-1,3butadiene; 9-silafluorendiyl(2-ter-butyl, 4-[3',5'-di-tbutylphenyl]indenyl) η<sup>4</sup>-1,4-diphenyl-1,3butadiene; 9-silafluorendiyl(2-eth), 4-[3',5'-bis-trifluoromethylphenyl]indenyl)2  $\eta^4 - 1.4$ diphenyl-1,3-butadien: 9-silafluorendiyl(2-n-propyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)2 diphenyl-1,3-butadien 9-silafluorendiyl(2-iso propyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)<sub>2</sub>  $\eta^4$ -1,4diphenyl-1,3-butadien 9-silafluorendiyl(2-n-lattyl, \$-[3',5'-bis-trifluoromethylphenyl]indenyl)2 diphenyl-1,3-butadien 9-silafluorendiyl(2-iso butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)<sub>2</sub> diphenyl-1,3-butadiene 9-silafluorendiyl(2-sec butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl) diphenyl-1,3-butadiene 9-silafluorendiyl(2-ter butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl) diphenyl-1,3-butadiene 9-silafluorendiyl(2-eth 1, 4-[3,5'-di-iso-propylphenyl]indenyl) 1,4-1,4-diphenyl-1,3butadiene; 9-silafluorendiyl(2-n-propyl, 4 3',5'-di-iso-propylphenyl]indenyl) 2 n<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

9-silafluorendiyl(2-is propyl 4-[3',5'-di-iso-propylphenyl]indenyl) \( \eta^4-1,4-\text{diphenyl} \) 1,3-butadiene: 9-silafluorendiyl(2-n-tutyl, #[3',5'-di-iso-propylphenyl]indenyl)2  $\eta^4$ -1,4-diphenyl-1,3-butadiene; 9-silafluorendiyl(2-isd-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl) η<sup>4</sup>-1,4-diphenyl-1,3-butadiene; 9-silafluorendiyl(2-se butyl,  $[4-[3',5'-di-iso-propylphenyl]indenyl)_2 <math>\eta^4-1,4-diphenyl-1$ 1,3-butadiene: 9-silafluorendiyl(2-ter-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene; 9-silafluorendiyl(2-mahyl, 4[3',5'-di-phenylphenyl]indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3butadiene; 9-silafluorendiyl(2-eth/1, 4-13',5'-di-phenylphenyllindenyl) n<sup>4</sup>-1,4-diphenyl-1,3butadiene; 9-silafluorendiyl(2-n-propyl, [3',5'-di-phenylphenyl]indenyl)<sub>2</sub> n<sup>4</sup>-1,4-diphenyl-1,3butadiene; 9-silafluorendiyl(2-iso propyl, 4-[3',5'-di-phenylphenyl]indenyl), n<sup>4</sup>-1,4-diphenyl-1,3butadiene; 9-silafluorendiyl(2-n-latyl, 4 3',5'-di-phenylphenyl]indenyl) η<sup>4</sup>-1,4-diphenyl-1,3butadiene; 9-silafluorendiyl(2-iso butyl, 4 3',5'-di-phenylphenyl)indenyl) n<sup>4</sup>-1,4-diphenyl-1,3butadiene: 9-silafluorendiyl(2-sed butyl, 4[3',5'-di-phenylphenyl]indenyl) n<sup>4</sup>-1,4-diphenyl-1,3butadiene; 9-silafluorendiyl(2-ter butyl, 4-[3',5'-di-phenylphenyl]indenyl) n<sup>4</sup>-1,4-diphenyl-1,3butadiene: dimethylamidoborane methy 4-[3',5'-di-tbutylphenyl]indenyl)2zirconium dichloride; dimethylamidoborane (ethyl, 4 [3',5'-di-tbutylphenyl]indenyl), zirconium dichloride: dimethylamidoborane n-propyl, 4-[3',5'-di-tbutylphenyl]indenyl)zirconium dichloride; dimethylamidoborane( iso-propyl, 4-[3',5'-di-tbutylphenyl]indenyl)2zirconium dichloride;

dimethylamidoborane 2-n-bu 4-[3',5'-di-tbutylphenyl]indenyl)zirconium dichloride; dimethylamidoborane 2-iso-buyl. 4-[3',5'-di-tbutylphenyl]indenyl)2zirconium dichloride; dimethylamidoborane 2-sec-buyl, 4-[3',5'-di-tbutylphenyl]indenyl)2zirconium dichloride; dimethylamidoborane tert-buyl, 4-[3',5'-di-tbutylphenyl]indenyl)2zirconium dichloride; 4-[3',5'-bis-trifluoromethylphenyl]indenyl)2zirconium dimethylamidoborane -ethyl, dichloride; dimethylamidoborane n-probyl, 4-[3',5'-bistrifluoromethylphenyl indenyl zirconium dichloride; dimethylamidoborane -iso-propyl, 4-[3',5'-bistrifluoromethylphenyl indenyl zirconium dichloride; dimethylamidoborane -n-buty 4-[3',5'-bistrifluoromethylphenyl indenyl zirconium dichloride; dimethylamidoborane -iso-butyl, 4-[3',5'-bistrifluoromethylphenyl indenyl zirconium dichloride; dimethylamidoborane sec-butyl, 4-[3',5'-bistrifluoromethylphenyl indenyl zirconium dichloride; dimethylamidoborane tert-buyl, 4-[3',5'-bistrifluoromethylphenyl ndenyl zirconium dichloride; dimethylamidoborane ethyl. 4-[3',5'-di-iso-propylphenyl]indenyl)2zirconium dichloride; dimethylamidoborane -n-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)2zirconium dichloride dimethylamidoborane iso-probyl, 4-[3',5'-di-iso-propylphenyl]indenyl)2zirconium dichloride; dimethylamidoborane( n-butyl 4-[3',5'-di-iso-propylphenyl]indenyl)2zirconium dichloride; dimethylamidoborane iso-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)2zirconium dichloride;

dimethylamidoborane -sec-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)2zirconium dichloride; dimethylamidoborane tert-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)2zirconium dichloride; dimethylamidoborane -methyl, 4-[3',5'-di-phenylphenyl]indenyl)zirconium dichloride; dimethylamidoborane -ethyl, 4-[3',5'-di-phenylphenyl]indenyl)2zirconium dichloride; dimethylamidoborane -n-propyl, 4-[3',5'-di-phenylphenyl]indenyl)2zirconium dichloride; dimethylamidoborane -iso-propyl, 4-[3',5'-di-phenyl]indenyl)2zirconium dichloride; dimethylamidoborane 4-[3',5'-di-phenylphenyl]indenyl)2zirconium -n-butyl, dichloride; dimethylamidoborane -iso-butyl, 4-[3',5'-di-phenylphenyl]indenyl)2zirconium dichloride; dimethylamidoborane -sec-butyl, 4-[3',5'-di-phenyl]indenyl)2zirconium dichloride; dimethylamidoborane tert-butyl, 4-[3',5'-di-phenylphenyl]indenyl)2zirconium dichloride; dimethylamidoborane—methyl, 4-[3',5'-di-tbutylphenyl]indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3-butadiene; dimethylamidoborane ethyl, 4-[3',5'-di-tbutylphenyl]indenyl) 1,4-diphenyl-1,3butadiene; dimethylamidoborane (1-n-propyl, 4-[3',5'-di-tbutylphenyl]indenyl) 1,4-diphenyl-1,3-butadiene: dimethylamidoborane( iso-propyl, 4-[3',5'-di-tbutylphenyl]indenyl)<sub>2</sub> diphenyl-1,3-butadiene dimethylamidoborane (-n-buty), 4-[3',5'-di-tbutylphenyl]indenyl) η<sup>4</sup>-1,4-diphenyl-1,3-butadiene; dimethylamidoborane( iso-buyl, 4-[3',5'-di-tbutylphenyl]indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

dimethylamidoborane -sec-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene; dimethylamidoborane tert-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3-butadiene; dimethylamidoborane -ethyl 4-[3',5'-bis-trifluoromethylphenyl]indenyl)<sub>2</sub>  $\eta^4$ -1,4diphenyl-1,3-butadier dimethylamidoborane n-propyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl), n<sup>4</sup>-1,4diphenyl-1,3-butadien dimethylamidoborane i-iso-propyl, 4-[3',5'-bis- trifluoromethylphenyl]indenyl), n<sup>4</sup>-1,4-diphenyl-1,3-buta ene; dimethylamidoborane -n-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)<sub>2</sub>  $\eta^4$ -1,4diphenyl-1,3-butadien dimethylamidoborane -iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl) n<sup>4</sup>-1.4diphenyl-1,3-butadien dimethylamidoborane -sec-batyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)<sub>2</sub>  $\eta^4$ -1,4diphenyl-1,3-butadien dimethylamidoborane tert-batyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3-butagene; dimethylamidoborane ethyl, 4-[3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene; dimethylamidoborane n-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)  $_2$   $\eta^4$ -1,4diphenyl-1,3-butadien dimethylamidoboraned-iso-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl) diphenyl-1,3-butadien dimethylamidoborane -n-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub> diphenyl-1,3-butadien dimethylamidoborane( iso-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)2 diphenyl-1,3-butadiene dimethylamidoborane( sec-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub> diphenyl-1,3-butadiene dimethylamidoborane tert-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)2 diphenyl-1,3-butadiene

dimethylamidoborand(2-methyl, 4-[3',5'-di-phenylphenyl]indenyl) 1,4-diphenyl-1,3-butadiene; dimethylamidoborand (2-ethyl 4-[3',5'-di-phenylphenyl]indenyl) 1,4-diphenyl-1,3butadiene: dimethylamidoborane(2-n-propyl, 4-[3',5'-di-phenylphenyl]indenyl)2 n4-1,4-diphenyl-1,3-butadiene; dimethylamidoborane 2-iso-propyl, 4-[3',5'-di-phenylphenyl]indenyl) diphenyl-1,3-butadiene dimethylamidoborane 2-n-but 1, 4-[3',5'-di-phenylphenyl]indenyl) 1, 4-[3',5'-di-phenylphenyl]indenyl 1,3-butadiene; dimethylamidoborane 2-iso-butyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub> n<sup>4</sup>-1,4-diphenyl-1,3-butadiene; dimethylamidoborane 2-sec-butyl, 4-[3',5'-di-phenyl]indenyl)<sub>2</sub> diphenyl-1,3-butadiene; dimethylamidoborane 2-tert-batyl, 4-[3',5'-di-phenylphenyl]indenyl) diphenyl-1,3-butadiene; dimethylamidoborane 2-methyl, 4-[3',5'-di-tbutylphenyl]indenyl) zirconium dimethyl; dimethylamidoborane -ethyl, 4-[3',5'-di-tbutylphenyl]indenyl)2zirconium dimethyl; dimethylamidoborane 2-n-propyl, 4-[3',5'-di-tbutylphenyl]indenyl)2zirconium dimethyl; 4-[3',5'-di-tbutylphenyl]indenyl)2zirconium dimethylamidoborane proppyl, dimethyl; dimethylamidoborane(2-n-butyl), 4-[3',5'-di-tbutylphenyl]indenyl)2zirconium dimethyl; dimethylamidoborane(2 iso-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)2zirconium dimethyl; dimethylamidoborane(2|sec-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)2zirconium dimethyl; dimethylamidoborane(P-tert-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)2zirconium dimethyl; dimethylamidoborane(Pethyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)2zirconium dimethyl; 48

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dimethylamidoborane(2-n-propyl, 4-[3',5'-bistrifluoromethylphenyl]indenyl2zirconium dimethyl; dimethylamidoborane(2-iso-ptopyl, 4-[3',5'-bistrifluoromethylphenyl]indeny bzirconium dimethyl; dimethylamidoborane(2-n-but) 4-[3',5'-bistrifluoromethylphenyl]indenylbzirconium dimethyl; dimethylamidoborane(2-iso-butyl, 4-[3',5'-bistrifluoromethylphenyl]indeny zirconium dimethyl: dimethylamidoborane(2-sec-bayl, 4-[3',5'-bistrifluoromethylphenyl]indenyl zirconium dimethyl; dimethylamidoborane(2-tert-batyl, 4-[3',5'-bistrifluoromethylphenyl]indenyl zirconium dimethyl; dimethylamidoborane(2-cthyl 4-[3',5'-di-iso-propylphenyl]indenyl)2zirconium dimethyl; dimethylamidoborane(2-n-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)2zirconium dimethyl dimethylamidoborane(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)2zirconium dimethyl; dimethylamidoborane(2-n-buty 4-[3',5'-di-iso-propylphenyl]indenyl)zirconium dimethyl; dimethylamidoborane 2-iso-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)2zirconium dimethyl; dimethylamidoborane(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)2zirconium dimethyl; dimethylamidoborane(2-tert-buly), 4-[3',5'-di-iso-propylphenyl]indenyl)2zirconium dimethyl; dimethylamidoborane(2-methy 4-[3',5'-di-phenylphenyl]indenyl)2zirconium dimethyl; dimethylamidoborane(2-ethyl, 4-[3',5'-di-phenylphenyl]indenyl)zirconium dimethyl; dimethylamidoborane(2-n-prom), 4-[3',5'-di-phenylphenyl]indenyl)zirconium dimethyl; dimethylamidoborane(2-iso-propyl, 4-[3',5'-di-phenylphenyl]indenyl)2zirconium dimethyl; 49

dimethylamidoborane(2-n-bu	1,	4-[3',5'-di-phenylphenyl]indenyl)2zirconium
dimethyl;		
dimethylamidoborane(2-iso-b	tyl,	4-[3',5'-di-phenylphenyl]indenyl)2zirconium
dimethyl;		•
dimethylamidoborane(2-sec-b	tyl,	4-[3',5'-di-phenyl]indenyl] <sub>2</sub> zirconium
dimethyl;		
dimethylamidoborane(2-tert-b	tyl,	4-[3',5'-di-phenyl]indenyl)2zirconium
dimethyl;		
diisopropylamidoborane(2-me	hyl,	4-[3',5'-di-tbutylphenyl]indenyl)2zirconium
dichloride;		
diisopropylamidoborane(2-eth	þ,	4-[3',5'-di-tbutylphenyl]indenyl)2zirconium
dichloride;		
diisopropylamidoborane(2-n-p	opyl,	4-[3',5'-di-tbutylphenyl]indenyl)2zirconium
dichloride;		
diisopropylamidoborane(2-iso	propyl,	.4-[3',5'-di-tbutylphenyl]indenyl)2zirconium
dichloride;		
diisopropylamidoborane(2-n-b	tyl,	4-[3',5'-di-tbutylphenyl]indenyl)2zirconium
dichloride;		•
diisopropylamidoborane(2-iso	utyl,	4-[3',5'-di-tbutylphenyl]indenyl)2zirconium
dichloride;		
diisopropylamidoborane(2-sec	outyl,	4-[3',5'-di-tbutylphenyl]indenyl)2zirconium
dichloride;		
diisopropylamidoborane(2-tert	butyl,	4-[3',5'-di-tbutylphenyl]indenyl)2zirconium
dichloride;		
diisopropylamidoborane(2-eth	,	4-[3',5'-bis-
trifluoromethylphenyllindenyl	zirconium	dichloride;
diisopropylamidoborane(2-n-pr	pyl,	4-[3',5'-bis-
trifluoromethylphenyl]indenyl)	zirconium	dichloride;
diisopropylamidoborare(2-iso-	ropyl,	4-[3',5'-bis-
trifluoromethylphenyl]indenyl)	zirconium	dichloride;
diisopropylamidoborare(2-n-b	yl,	4-[3',5'-bis-
trifluoromethylphenyl]indenyl)	zirconium	dichloride;

dichloride:

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diisopropylamidoborane(2-isc butyl, 4-[3',5'-bis-trifluoromethylpheny lindeny zirconium dichloride;

diisopropylamidoborane(2-sed butyl, 4-[3',5'-bis-

trifluoromethylphenyllindeny zirconium dichloride;

diisopropylamidoborane(2-ter butyl, 4-[3',5'-bis-

trifluoromethylphenyl]indenyl zirconium dichloride;

diisopropylamidoborane(2-ethyl, 4-[3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub>zirconium dichloride;

diisopropylamidoborane(2-n-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub>zirconium dichloride

diisopropylamidoborane(2-iso propyl, 4-[3',5'-di-iso-

propylphenyl]indenyl]zirconi im dichloride;

diisopropylamidoborane(2-n-bityl, 4-[3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub>zirconium dichloride;

diisopropylamidoborane(2-iso butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub>zirconium dichloride;

diisopropylamidoborane(2-sec\_butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub>zirconium dichloride;

diisopropylamidoborane(2-tert butyl. 4-[3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub>zirconium dichloride;

diisopropylamidoborane(2-metyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub>zirconium dichloride;

diisopropylamidoborane(2-eth), 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub>zirconium dichloride;

diisopropylamidoborane(2-n-propyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub>zirconium dichloride;

diisopropylamidoborane(2-iso-cropyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub>zirconium dichloride;

diisopropylamidoborane(2-n-bityl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub>zirconium

diisopropylamidoborane(2-iso-tutyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub>zirconium dichloride;

diisopropylamidoborane(2-sed-butyl, 4-[3',5'-di-phenylphenyl]indenyl)zirconium dichloride; diisopropylamidoborane(2-ter-butyl, 4-[3',5'-di-phenyl]indenyl)2zirconium dichloride; diisopropylamidoborane(2-methyl, 4-[3',5'-di-tbutylphenyl]indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene; diisopropylamidoborane(2-ethal, 4-[3',5'-di-tbutylphenyl]indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3-butadiene; diisopropylamidoborahe(2-n-mopyl, 4-[3',5'-di-tbutylphenyl]indenyl)<sub>2</sub> n<sup>4</sup>-1,4diphenyl-1,3-butadiene; diisopropylamidoborane(2-isopropyl, 4-[3',5'-di-tbutylphenyl]indenyl)<sub>2</sub> diphenyl-1,3-butadiene; diisopropylamidoborane(2-n-bltyl, 4-[3',5'-di-tbutylphenyl]indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3-butadiene; diisopropylamidoborane(2-iso outyl, 4-[3',5'-di-tbutylphenyl]indenyl)<sub>2</sub>  $\eta^4 - 1.4$ diphenyl-1,3-butadiene; diisopropylamidoborahe(2-sec butyl, 4-[3',5'-di-tbutylphenyl]indenyl)<sub>2</sub> diphenyl-1,3-butadiene; diisopropylamidoborane(2-tert butyl, 4-[3',5'-di-tbutylphenyl]indenyl)2 diphenyl-1,3-butadiene; diisopropylamidoborane (2-eth), 4-[3',5'-bis-trifluoromethylphenyl]indenyl)<sub>2</sub> η<sup>4</sup>-1,4diphenyl-1,3-butadiene; diisopropylamidoborane(2-n-propyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3-butadiene; diisopropylamidoborane(2-iso-propyl, 4-[3',5'-bis- trifluoromethylphenyl]indenyl)2 η<sup>4</sup>-1,4-diphenyl-1,3-butadiene: diisopropylamidoborane(2-n-byl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl) η<sup>4</sup>-1,4-diphenyl-1,3-butadiene; diisopropylamidoborate(2-iso-tutyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)<sub>2</sub> n<sup>4</sup>-1,4-diphenyl-1,3-butadiene; diisopropylamidoborane(2-sectutyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl), n<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

diisopropylamidoborane(2-ter butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)<sub>2</sub> n<sup>4</sup>-1,4-diphenyl-1,3-butadiene; diisopropylamidoborane(2-ethyl, 4-[3';5'-di-iso-propylphenyl]indenyl)2 n<sup>4</sup>-1.4diphenyl-1,3-butadiene; diisopropylamidoborahe(2-n-thopyl, 4-[3',5'-di-iso-propylphenyl]indenyl) 2  $\eta^4$ -1,4diphenyl-1,3-butadiene; diisopropylamidoborane(2-iso propyl, 4-[3',5'-di-iso-propylphenyl]indenyl) η<sup>4</sup>-1,4diphenyl-1,3-butadiene; diisopropylamidoborane(2-n-httyl, 4-[3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub> diphenyl-1,3-butadiene; diisopropylamidoborane(2-iso butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub> η<sup>4</sup>-1,4diphenyl-1,3-butadiene; diisopropylamidoborane(2-sec-butyl,  $4-[3',5'-di-iso-propylphenyl]indenyl)_2 \eta^4-1,4$ diphenyl-1,3-butadiene; diisopropylamidoborahe(2-tertbutyl, 4-[3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub>  $\eta^4$ -1,4diphenyl-1,3-butadiene; diisopropylamidoborane(2-methyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub> n<sup>4</sup>-1.4diphenyl-1,3-butadiene; diisopropylamidoborahe(2-eth), 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub> n<sup>4</sup>-1,4-diphenyl-1,3-butadiene; diisopropylamidoborane(2-n-propyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub> n4-1,4diphenyl-1,3-butadiene: diisopropylamidoborane(2-iso-propyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub> diphenyl-1,3-butadiene; diisopropylamidoborane(2-n-buyl, n<sup>4</sup>-1.4-4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub> diphenyl-1,3-butadiend: diisopropylamidoborane(2-iso-butyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub> diphenyl-1,3-butadiene; diisopropylamidoborate(2-sec-butyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub> diphenyl-1,3-butadiene; diisopropylamidoborare(2-tert butyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub> diphenyl-1,3-butadiene;

diisopropylamidoborane(2-me	hyl,	4-[3',5'-di-tbutylphenyl]indenyl)2zirconium
dimethyl;		
diisopropylamidoborane(2-eth	1,	4-[3',5'-di-tbutylphenyl]indenyl)2zirconium
dimethyl;		
diisopropylamidoborane(2-n-r	opyl,	4-[3',5'-di-tbutylphenyl]indenyl)2zirconium
dimethyl;		
diisopropylamidoborane(2-iso	propyl,	. 4-[3',5'-di-tbutylphenyl]indenyl)2zirconium
dimethyl;		:
diisopropylamidoborane(2-n-b	tyl,	:4-[3',5'-di-tbutylphenyl]indenyl)2zirconium
dimethyl;		:
diisopropylamidoborane(2-iso	butyl,	4-[3',5'-di-tbutylphenyl]indenyl)2zirconium
dimethyl;		; ;
diisopropylamidoborane(2-sec	butyl,	4-[3',5'-di-tbutylphenyl]indenyl)2zirconium
dimethyl;		i :
diisopropylamidoborane(2-tert	butyl,	4-[3',5'-di-tbutylphenyl]indenyl)2zirconium
dimethyl;		:
diisopropylamidoborane(2-eth	,	4-[3',5'-bis-
trifluoromethylphenyljindenyl	zirconium	dimethyl;
diisopropylamidoborane(2-n-p	opyl,	4-[3',5'-bis-
trifluoromethylphenyllindenyl	zirconium	dimethyl;
diisopropylamidoborane(2-iso-	ropyl,	4-[3',5'-bis-
trifluoromethylphenyl]indenyl	zirconium	dimethyl;
diisopropylamidoborane(2-n-b	tyl,	4-[3',5'-bis-
trifluoromethylphenyl]indenyl	zirconium	dimethyl;
diisopropylamidoborane(2-iso-	utyl,	4-[3',5'-bis-
trifluoromethylphenyl]indenyl	zirconium	dimethyl;
diisopropylamidoborane(2-sec-	utyl,	4-[3',5'-bis-
trifluoromethylphenyl]indenyl)	zirconium	dimethyl;
diisopropylamidoborane(2-tert-	butyl,	4-[3',5'-bis-
trifluoromethylphenyl]indenyl)	zirconium	dimethyl;
diisopropylamidoborane(2-ethy	, 4-[3	5'-di-iso-propylphenyl]indenyl)2zirconium
dimethyl;		:

diisopropylamidoborane(2-n-thopyl, 4-[3',5'-di-iso-propylphenyl]indenyl)2zirconium dimethyl diisopropylamidoborane(2-iso propyl, 4-[3',5'-di-isopropylphenyl]indenyl)2zirconi im dimethyl; diisopropylamidoborane(2-n-hityl, 4-[3',5'-di-iso-propylphenyl]indenyl)2zirconium dimethyl; diisopropylamidoborane(2-iso butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)2zirconium dimethyl; diisopropylamidoborane(2-sechutyl, 4-[3],5'-di-iso-propylphenyl]indenyl)zirconium dimethyl; diisopropylamidoborane(2-tert butyl, 4-[3],5'-di-iso-propylphenyl]indenyl)2zirconium dimethyl; diisopropylamidoborane(2-menyl, 4-[3',5'-di-phenylphenyl]indenyl)2zirconium dimethyl; diisopropylamidoborane(2-eth 4-[3',5'-di-phenylphenyl]indenyl)2zirconium dimethyl; diisopropylamidoborane(2-n-popyl, 4-[3',5'-di-phenylphenyl]indenyl)2zirconium dimethyl; diisopropylamidoborane(2-iso-propyl, 4-[3',5'-di-phenylphenyl]indenyl)zirconium dimethyl; diisopropylamidoborane(2-n-batyl, 4-[3',5'-di-phenylphenyl]indenyl)2zirconium dimethyl; diisopropylamidoborane(2-iso-dutyl, 4-[3',5'-di-phenylphenyl]indenyl)zirconium dimethyl; diisopropylamidoborane(2-sechutyl, 4-[3',5'-di-phenylphenyl]indenyl)2zirconium dimethyl; diisopropylamidoborane(2-tert butyl, 4-[3',5'-di-phenylphenyl]indenyl)2zirconium dimethyl; bis(trimethylsilyl)amidoborane 2-methyl, 4-[3',5'-di-tbutylphenyl]indenyl)2zirconium dichloride; bis(trimethylsilyl)amidoborane 2-ethyl, 4-[3',5'-di-tbutylphenyl]indenyl)2zirconium dichloride; 55 1.\BPC\LA 2002b140\US\2002B140-2-L'S-2005APR21-RESTRICTION REQUIREMENT, DOC

(2-n-propyl,	4-[3',5'-di-
m dichloride;	
(2-iso-propyl,	4-[3',5'-di-
m dichloride;	
2-n-butyl, 4-[3',5'-di-tbutylphenyl]inde	enyl)₂zirconium
(2-iso-butyl,	4-[3',5'-di-
n dichloride;	
2-sec-butyl,	4-[3',5'-di-
n dichloride;	
2-tert-butyl,	4-[3',5'-di-
n dichloride;	
2-ethyl,	4-[3',5'-bis-
zirconium dichloride;	
(2-n-propyl,	4-[3',5'-bis-
zirconium dichloride;	
2-iso-propyl,	4-[3',5'-bis-
zirconium dichloride;	
(2-n-butyl,	4-[3',5'-bis-
zirconium dichloride;	
2-iso-butyl,	4-[3',5'-bis-
zirconium dichloride;	
2-sec-butyl,	4-[3',5'-bis-
zirconium dichloride;	
2-tert-butyl,	4-[3',5'-bis-
zirconium dichloride;	
2-ethyl,	4-[3',5'-di-iso-
n dichloride;	
2-n-propyl,	4-[3',5'-di-iso-
n dichloride	
2-iso-propyl,	4-[3',5'-di-iso-
n dichloride;	
	m dichloride;  2-iso-propyl, m dichloride;  (2-n-butyl, 4-[3',5'-di-tbutylphenyl]inde  (2-iso-butyl, m dichloride; (2-sec-butyl, m dichloride; (2-tert-butyl, m dichloride; (2-ethyl, zirconium dichloride; (2-n-propyl, zirconium dichloride; (2-n-butyl, zirconium dichloride; (2-n-butyl, zirconium dichloride; (2-rebutyl, zirconium dichloride; (2-sec-butyl, zirconium dichloride; (2-sec-butyl, zirconium dichloride; (2-sec-butyl, zirconium dichloride; (2-tert-butyl, zirconium dichloride;

bis(trimethylsilyl)amidobora 2-n-butyl, 4-[3',5'-di-isopropylphenyl]indenyl]zirconim dichloride; bis(trimethylsilyl)amidoborate 2-iso-butyl, 4-[3',5'-di-isopropylphenyl]indenyl]zirconim dichloride; bis(trimethylsilyl)amidoborare 2-sec-butyl. 4-[3',5'-di-isopropylphenyl]indenyl]zircon im dichloride; bis(trimethylsilyl)amidoborar (2-tert-butyl, 4-[3',5'-di-isopropylphenyl]indenyl)zirconi in dichloride; bis(trimethylsilyl)amidoborard (2-methyl, 4-[3',5'-di-phenylphenyl]indenyl)zirconium dichloride; bis(trimethylsilyl)amidoborarid(2-ethyl, 4-[3',5'-di-phenylphenyl]indenyl)2zirconium dichloride: bis(trimethylsilyl)amidoborard(2-n-propyl, 4-[3',5'-diphenylphenyl]indenyl)zircon im dichloride; bis(trimethylsilyl)amidoborare 2-iso-propyl, 4-[3',5'-diphenylphenyl]indenyl zircori in dichloride; bis(trimethylsilyl)amidoborard2-n-butyl, 4-[3',5'-diphenylphenyl]indenyl zirconi in dichloride; bis(trimethylsilyl)amidoborant 2-iso-butyl, 4-[3',5'-diphenylphenyl]indenyl zircon um dichloride; bis(trimethylsilyl)amidoboran 2-sec-butyl, 4-[3',5'-diphenylphenyl]indenyl zircon in dichloride; bis(trimethylsilyl)amiddborant 2-tert-butyl, 4-[3',5'-diphenylphenyl]indenyl)zircon im dichloride; bis(trimethylsilyl)amiddborant 2-methyl, 4-[3',5'-di-tbutylphenyl]indenyl)<sub>2</sub> η<sup>4</sup>-1,4diphenyl-1,3-butadiene; bis(trimethylsilyl)amiddborana 2-ethyl, 4-[3',5'-di-tbutylphenyl]indenyl)2 diphenyl-1,3-butadiene; bis(trimethylsilyl)amidoborant 2-n-propyl, 4-[3',5'-di-tbutylphenyl]indenyl)<sub>2</sub>  $\eta^4$ -1,4diphenyl-1,3-butadiene; bis(trimethylsilyl)amidoborane 2-iso-propyl, 4-[3',5'-di-tbutylphenyl]indenyl)<sub>2</sub>  $\eta^4$ -1,4diphenyl-1,3-butadiene;

bis(trimethylsilyl)amidoboran (2-n-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)<sub>2</sub> n<sup>4</sup>-1,4diphenyl-1,3-butadiene; bis(trimethylsilyl)amidoboran (2-iso-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)<sub>2</sub> η<sup>4</sup>-1,4diphenyl-1,3-butadiene; bis(trimethylsilyl)amidoborand (2-sec-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)<sub>2</sub> η<sup>4</sup>-1,4diphenyl-1,3-butadiene: bis(trimethylsilyl)amidoborand (2-tert-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)<sub>2</sub> n<sup>4</sup>-1,4diphenyl-1,3-butadiene! bis(trimethylsilyl)amidoborand(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)2 n4-1,4-diphenyl-1,3-butadiene bis(trimethylsilyl)amidoborand2-n-propyl, 4-[3',5'-bistrifluoromethylphenyllihdenyl 1,4-diphenyl-1,3-butadiene; bis(trimethylsilyl)amidoborari (2-iso-propyl, 4-[3',5'-bis-bis(trimethylsilyl)amidoborand 2-n-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)2 η<sup>4</sup>-1,4-diphenyl-1,3-b tadiene bis(trimethylsilyl)amidoborant [2-iso-butyl, 4-[3',5'-bistrifluoromethylphenyl indenyl 1,4-diphenyl-1,3-butadiene; bis(trimethylsilyl)amideborane 2-sec-butyl, 4-[3',5'-bistrifluoromethylphenyl indeny \ \ \eta^{4}-1,4-diphenyl-1,3-butadiene; bis(trimethylsilyl)amiddborant 2-tert-butyl, 4-[3',5'-bistrifluoromethylphenyl indeny!  $11^4$ -1,4-diphenyl-1,3-butadiene; bis(trimethylsilyl)amiddborant 2-ethyl, 4-[3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub> n<sup>4</sup>-1,4diphenyl-1,3-butadiene; bis(trimethylsilyl)amiddborans 2-n-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl) 2 n<sup>4</sup>-1,4-diphenyl-1,3-butadiene; bis(trimethylsilyl)amiddborane 2-iso-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl) η<sup>4</sup>-1,4-diphenyl-1,3-butadiene; bis(trimethylsilyl)amiddborand 2-n-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3-butadiene; bis(trimethylsilyl)amiddborane 2-iso-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

bis(trimethylsilyl)amidioborand 2-sec-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub> η<sup>4</sup>-

1,4-diphenyl-1,3-butadiene;

bis(trimethylsilyl)amidoborare (2-tert-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)<sub>2</sub> η<sup>4</sup>-

1,4-diphenyl-1,3-butadiene;

bis(trimethylsilyl)amideborane(2-methyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

bis(trimethylsilyl)amidoborant 2-ethyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3-butadiene:

bis(trimethylsilyl)amidoboran 2-n-propyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

bis(trimethylsilyl)amidoborans (2-iso-propyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

bis(trimethylsilyl)amidoborant 2-n-butyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3-butadiene;

bis(trimethylsilyl)amidoborant 2-iso-butyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub> η<sup>4</sup>-1,4-diphenyl-1,3-butadiene.

bis(trimethylsilyl)amidoborant 2-sec-butyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene:

bis(trimethylsilyl)amiddborane 2-tert-butyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub>  $\eta^4$ -1,4-diphenyl-1,3-butadiene;

bis(trimethylsilyl)amiddborane 2-methyl, 4-[3',5'-di-tbutylphenyl]indenyl)2zirconium dimethyl;

bis(trimethylsilyl)amidoborane 2-ethyl, 4-[3',5'-di-tbutylphenyl]indenyl)2zirconium dimethyl;

bis(trimethylsilyl)amiddborane 2-n-propyl, 4-[3',5'-di-

tbutylphenyl]indenyl)2zirconium dimethyl;

bis(trimethylsilyl)amiddborane 2-iso-propyl, 4-[3',5'-di-

tbutylphenyl]indenyl)2zirconium dimethyl;

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bis(trimethylsilyl)amicdborane 2-n-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)2zirconium dimethyl;

bis(trimethylsilyl)amidaborane 2-iso-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)2zirconium dimethyl;

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bis(trimethylsilyl)amicoborant	2-sec-butyl,	4-[3',5'-di-
tbutylphenyl]indenyl)zirconi	n dimethyl;	
bis(trimethylsilyl)amidoboran	2-tert-butyl,	4-[3',5'-di-
tbutylphenyl]indenyl)2zirconi	n dimethyl;	
bis(trimethylsilyl)amidoboran	2-ethyl,	4-[3',5'-bis-
trifluoromethylphenyllindenyl	zirconium dimethyl;	
bis(trimethylsilyl)amidoboran	2-n-propyl,	4-[3',5'-bis-
trifluoromethylphenyl	zirconium dimethyl;	
bis(trimethylsilyl)amidoboran	2-iso-propyl,	4-[3',5'-bis-
trifluoromethylphenyllindenyl	zirconium dimethyl;	
bis(trimethylsilyl)amidoboran	2-n-butyl,	4-[3',5'-bis-
trifluoromethylphenyllindenyl	zirconium dimethyl;	
bis(trimethylsilyl)amidoboran	2-iso-butyl,	4-[3',5'-bis-
trifluoromethylphenyl indenyl	zirconium dimethyl;	
bis(trimethylsilyl)amiddboran	2-sec-butyl,	4-[3',5'-bis-
trifluoromethylphenyl indenyl	zirconium dimethyl;	
bis(trimethylsilyl)amidoborane	2-tert-butyl,	4-[3',5'-bis-
trifluoromethylphenyl	zirconium dimethyl;	
bis(trimethylsilyl)amidoborane	2-ethyl,	4-[3',5'-di-iso-
propylphenyl]indenyl) zirconi	n dimethyl;	
bis(trimethylsilyl)amidoborane	2-n-propyl,	4-[3',5'-di-iso-
propylphenyl]indenyl) zirconi	n dimethyl	
bis(trimethylsilyl)amidoboran	2-iso-propyl,	4-[3',5'-di-iso-
propylphenyl]indenyl)zirconi	n dimethyl;	
bis(trimethylsilyl)amidoborane	2-n-butyl,	4-[3',5'-di-iso-
propylphenyl]indenyl) zirconi	n dimethyl;	
bis(trimethylsilyl)amicoboran	2-iso-butyl,	4-[3',5'-di-iso-
propylphenyl]indenyl) zirconi	n dimethyl;	
bis(trimethylsilyl)amidoborane	2-sec-butyl,	4-[3',5'-di-iso-
propylphenyl]indenyl) zirconi	n dimethyl;	
bis(trimethylsilyl)amiddborane	2-tert-butyl,	4-[3',5'-di-iso-
propylphenyl]indenyl) zirconil	n dimethyl;	

bis(trimethylsilyl)amidoboran [2-methyl, 4-[3',5'-di-phenylphenyl]indenyl)<sub>2</sub>zirconium dimethyl;

bis(trimethylsilyl)amiddborant 2-ethyl, 4-[3',5'-di-phenylphenyl]indenyl)2zirconium dimethyl;

dimethyl;
bis(trimethylsilyl)amidoborans (2-n-propyl,
phenylphenyl]indenyl) zircon um dimethyl;
bis(trimethylsilyl)amidoborans (2-iso-propyl,
phenylphenyl]indenyl) zircon um dimethyl;
bis(trimethylsilyl)amidoborans (2-n-butyl,
phenylphenyl]indenyl) zircon um dimethyl;
bis(trimethylsilyl)amidoborans (2-iso-butyl,
bis(trimethylsilyl)amidoborans (2-iso-butyl,
4-[3',5'-di-

phenylphenyl]indenyl) zircon um dimethyl;

bis(trimethylsilyl)amidoboran 2-sec-butyl,

4-[3',5'-di-

phenylphenyl]indenyl zircon un dimethyl; or bis(trimethylsilyl)amicoborane (2-tert-butyl,

4-[3',5'-di-

phenylphenyl]indenyl zircon un dimethyl.

- 109. (original) A polymer comprising one or more C3 to C40 olefins and less than 1 mole % of ethylene where the polymer has:
  - a) a Dot T-Peel of 1 News in or more; and
  - b) a branching index (g') at 0.95 or less measured at the Mz of the polymer; and
  - c) an Mw of 100,000 or less; and
    the polymer has an amorphous component which contains at least 3 mol%
    (CH<sub>2</sub>)<sub>2</sub> units.
- 110. (original) The polymer of claim 109 where the amorphous component contains at least 6 mol % (CH<sub>2</sub>)<sub>2</sub> units.
- 111. (original) The polymer of claim 109 where the amorphous component contains at least 10 mol % (CH<sub>2</sub>)<sub>2</sub> units.
- 112. (original) The polymer of claim 109 where the amorphous component contains at least 15 mol % (CH<sub>2</sub>)<sub>2</sub> minits.

- 113. (original) The polymer of claim 109 where the amorphous component contains at least 20 mol % (CH<sub>2</sub>)2 mints.
- 114. (original) A polymer comprising one or more C3 to C40 olefins and between 1 and 5 mole % of ethylene where the polymer has:
  - a) a Dot T-Peel of 1 New on or more; and
  - b) a branching index (g') at 0.95 or less measured at the Mz of the polymer; and
  - c) an Mw of 100,000 or less; and the polymer has an amerphous component which contains at least 3 + X mol% (CH<sub>2</sub>)<sub>2</sub> units, where X is the mol % ethylene in the polymer.
- 115. (original) The polymer of claim 114 where the amorphous component contains at least 6 + X mol % (CF<sub>2</sub>)<sub>2</sub> unit.
- 116. (original) The polymer of claim 114 where the amorphous component contains at least 10 + X mol % (CH<sub>2</sub>)<sub>2</sub> units.
- 117. (original) The polymer of claim 114 where the amorphous component contains at least 15 + X mol % (CH<sub>2</sub>)<sub>2</sub> units.
- 118. (original) The polymer of claim 114 where the amorphous component contains at least 20 + X mol % (CH<sub>2</sub>)<sub>2</sub> units.

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